

February, 1955

SOAP

and Chemical Specialties

In this issue...

**Old favorites losing out
to newer soap perfumes**

**Fischer - Tropsch waxes
moving into U. S. market**

**Cosmetic aerosols lead
to profits with glamour**

**Cyclethrin -- the answer
to improved fly control?**

*Cover photo . . . E. W. Wilson,
vice-president of Armour & Co.,
Chicago, who was chosen presi-
dent of the Soap Association at its
28th annual meeting last month.*

Fe 26 55





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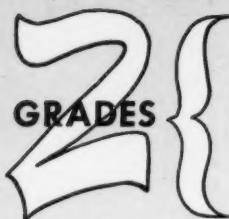
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Lower Floor Maintenance Cost



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Originally offered as CANDY'S SUPREME Special WR-AS in July 1950

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CAND-DOX #CS and BB are made in any total percentage of solids 8% to 18% and in 24% concentrate.

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CANDY'S SUPREME Special WR
BRIGHT BEAUTY (Standard)
#CS CAND-DOX
#BB CAND-DOX

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Our policy in regard to use of new additives to our floor waxes has always been clear-cut... if a definite improvement can be accomplished we endeavor to formulate and combine new ingredients in such a way as to conform to our very high standards of product function. These standards in no case are ever sacrificed to climb on any "band-wagon" of sales appeal.

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** **CAND-DOX** contains CANDY'S wax emulsion with **LUDOX*** colloidal silica in such proportion as to fully deliver the usefulness of this additive to floor wax. *Trademark of E. I. du Pont de Nemours & Co., (Inc.) Reg. U. S. Pat. Off. **CAND-DOX** is available for private brand resale and is sold only through distributors except for experimental accounts in Chicago essential to research.

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Candy & Company, Inc.
2515 W. 35th ST., CHICAGO

SOAP

and Chemical Specialties

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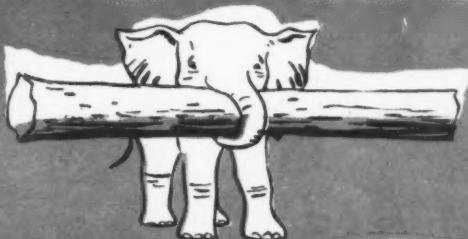
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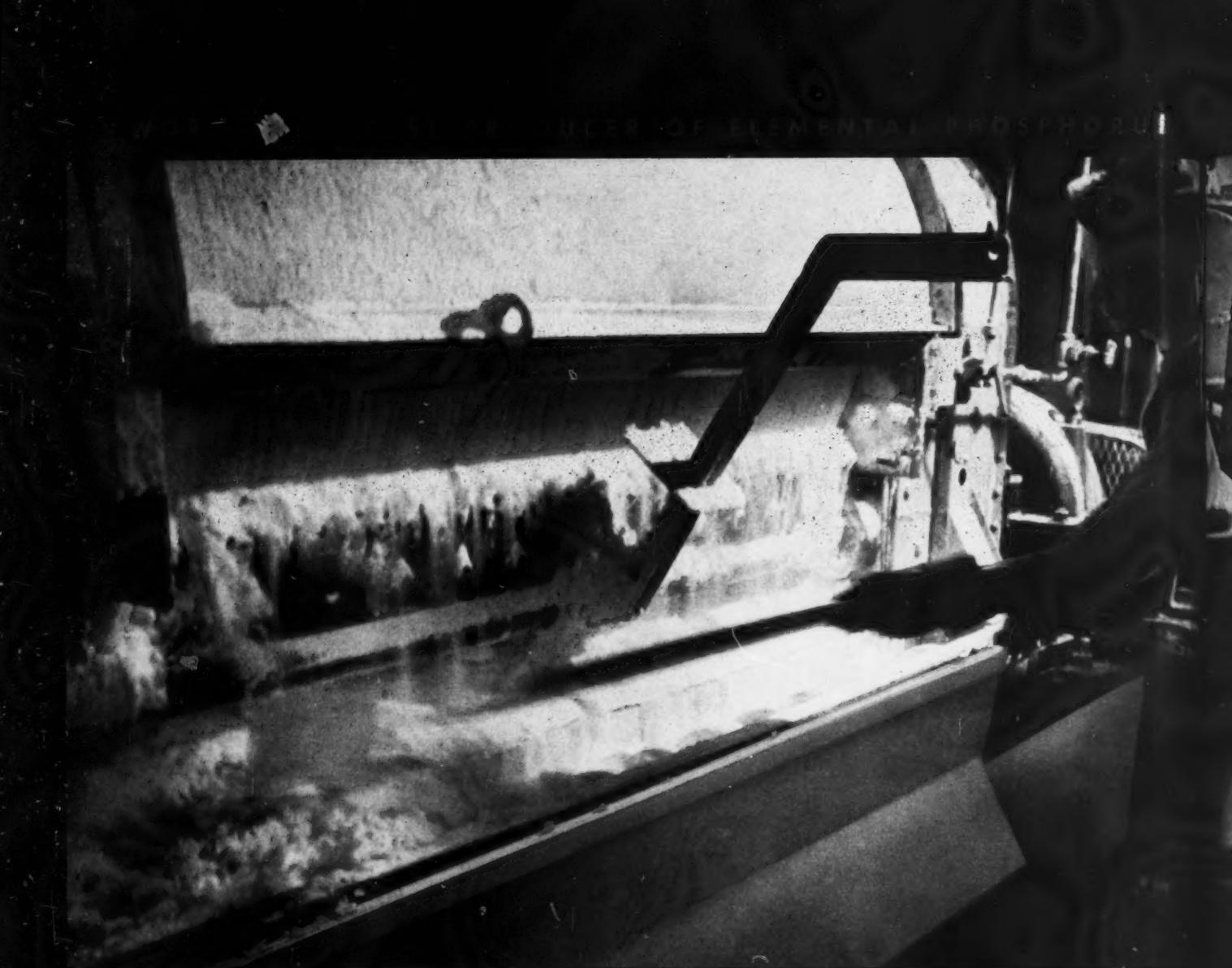
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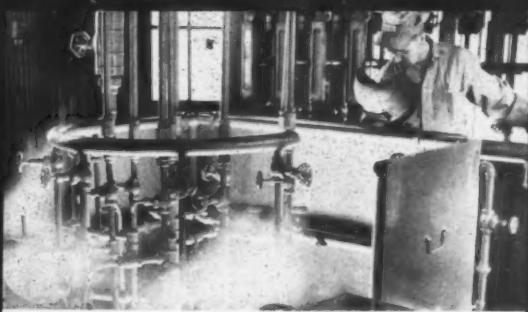
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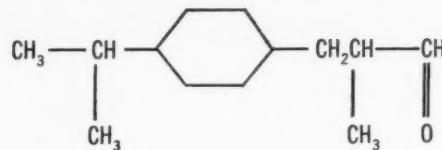


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(CYCLAMEN ALDEHYDE) [®]

$C_{13}H_{18}O$



Molecular
Weight :
190.27

Typical Specifications:

| | |
|---|---|
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| ASSAY: | 93% minimum Aldehyde content. |
| ODOR TYPE: | Floral; Lily-of-the-Valley or Muguet. |
| SOLUBILITY (@ 20°C): | 10 parts soluble in 15 parts 80% Ethyl Alcohol. |
| STABILITY: | Lasting in soaps, cosmetics and of a high quality which permits its use in the most expensive perfumes. |
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| SPECIFIC GRAVITY ($\frac{25}{25}$): | 0.950 |
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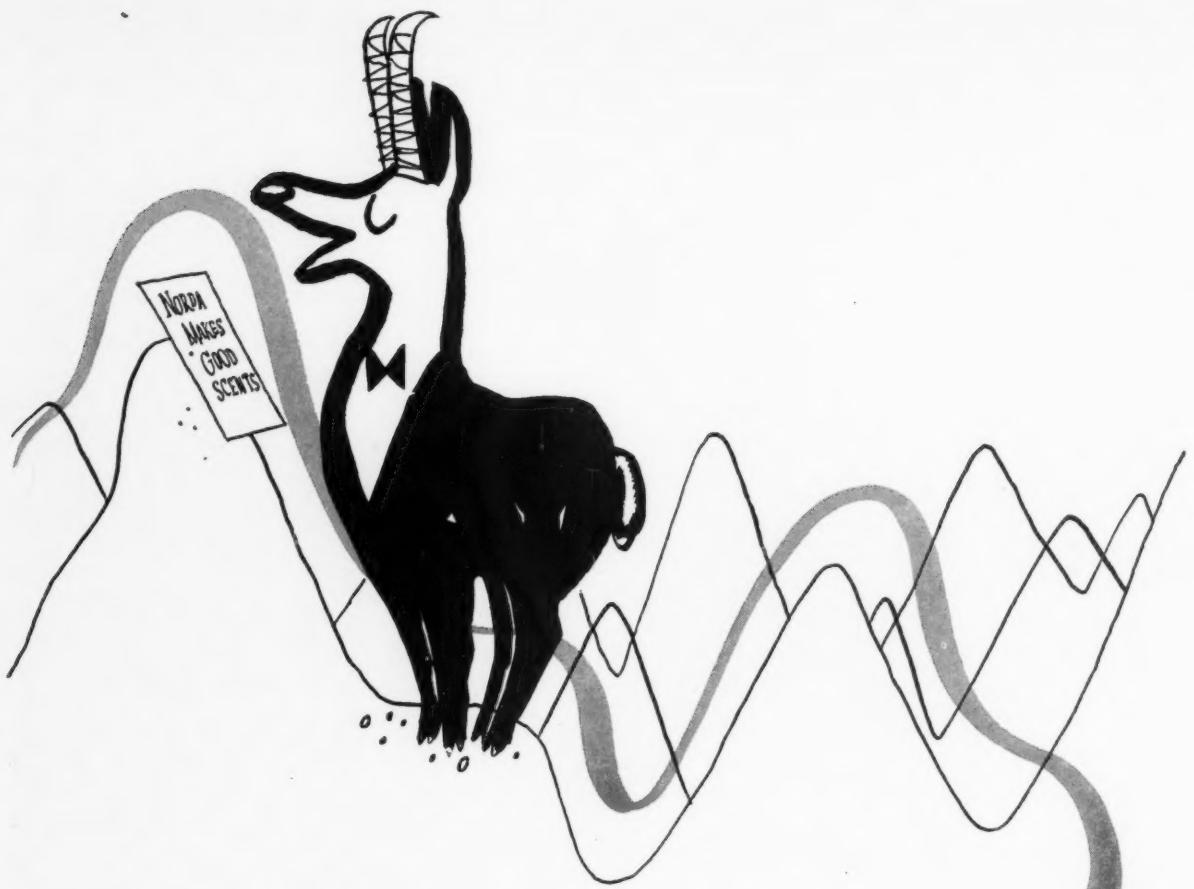
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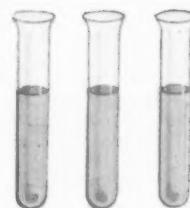
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that really lather and

give uniform color

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| LINSEED Regular..... | X | X | | X | | | |
| SM-500..... | X | X | | X | | | |
| SM-600..... | | | | X | | | |
| Essential Unsaturated Free Fatty Acids..... | X | | | | | | X |
| SOYA Regular..... | X | X | | X | | | |
| RO-4..... | X | X | X | X | | | |
| RO-10..... | X | X | | X | | | |
| RO-115..... | X | X | | X | | | |
| MIXED VEGETABLE RO-8..... | X | X | X | X | X | | |
| CORN-SOYA Double-Distilled..... | | X | X | X | X | | |
| CORN Double-Distilled..... | | X | X | X | X | | |
| COTTONSEED Double-Distilled..... | X | X | X | X | | | |

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Fred:

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Alkane?

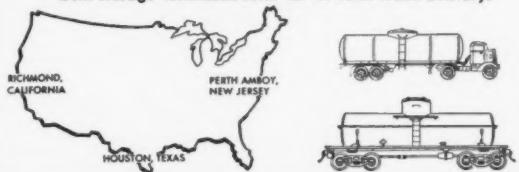
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Mercantile Securities Building, Dallas 1, Texas





After Closing...

W. P. Ward Dies

William Palmer Ward, retired purchasing agent for Colgate-Palmolive Co., Jersey City, N. J., died Jan. 31 at his home in Westfield, N. J. He was 80 years and had served Colgate for forty years.

P & G Boosts Net

A consolidated net profit of \$31,946,760, equal to \$3.30 per share of common stock, for the six months ended Dec. 31, 1954 was reported Jan. 28 by Procter & Gamble Co., Cincinnati. In the comparable period of 1953, P & G had a consolidated net profit of \$25,856,298, or \$2.68 per common share. A provision of \$35,477,000 for United States and foreign income taxes was made in the 1954 period.

Renderers to Chicago

The National Renderers Association has moved its offices from Washington, D. C. to 130 North Wells Street, Chicago, it was announced February 1 by John J. Hamel, Jr., president. Miss Jamie C. Fox of Chicago has been engaged as secretary of the association. She was previously associated with Webb & Knapp, Inc., New York. Washington correspondent for the association is Joseph B. Huttlinger.

Price Enters Consulting

Dr. Donald Price, since 1945 technical director of Oakite Products, Inc., New York, announced last month that he was resigning from that position to enter the consulting field. An authority on surface active agents, detergents and cleaning materials, Dr. Price is the author of the book, "Detergents, What They Are and What They Do". He holds 35 U. S. and foreign patents, and is author of more than 25 original research and technical

papers in the fields of organic chemistry, oils and fats and surface active agents. He will specialize in his con-



Donald Price

sulting work on surface active agents, cleaning materials, the chemistry of oils and fats and research administration.

After receiving his Ph.D. from Columbia in 1930, Dr. Price spent two years in research in Europe at the universities of Cambridge and Munich, following which he taught for five years at Columbia. Later he was associated with National Oil Products Co. (now Nopco Chemical Co.), Harrison, N. J., where he was technical director, and Interchemical Corp., New York. His home is at 123 E. 92nd St., New York 28, N. Y.

ACS Detergent Symposium

Soap and synthetic detergent literature will be discussed in a symposium conducted by the Chemical Literature Division of the American Chemical Society in Cincinnati, May 1. Six papers will be presented during the symposium, which is to be followed by a panel discussion. John W. McCutcheon, New York consultant, will be chairman of the symposium. Papers and speakers include: "Concepts of Terminology in

the Detergents Field," by James W. Perry of Battelle Institute, Cincinnati; "Sources of Information on Detergents from the Technical Literature" by Donald Price, New York consultant; "Industrial Advertising of Soaps and Detergents as a Source of Information" by Dr. Daniel A. Terry of Bon Ami Co., New York; "Patent Searches in the Field of Detergents" by W. P. Bell of Procter & Gamble Co., Cincinnati; "Recent Patent Literature in the Detergent Field" by Trenton Meredith of Colgate-Palmolive Co., Jersey City, N. J., and "Detergent Analysis with IBM Punch Cards" by L. E. Kruentzl of Wyandotte Chemicals Corp., Wyandotte, Mich.

Participating in the panel discussion will be Else L. Schultz, Procter & Gamble Co., Cincinnati; H. A. Molteni, E. F. Drew & Co., Boonton, N. J.; A. B. Johnson, California Research Institute, and William M. Bright of Lever Brothers Co., New York.

Cosmetic Women Meet

Cosmetic Career Women held their third luncheon meeting Feb. 3 at the Waldorf-Astoria Hotel, N. Y. Guest speaker was Fleur Cowles, associate editor of Cowles publications, publishers of *Look* magazine.

The April meeting will be held on April 5 at the Waldorf-Astoria Hotel and will hear a talk by George P. Lerrick, commissioner of Food and Drugs, U. S. Department of Health, Education and Welfare, Washington, D. C.

New Sequestrant

A new sequestering agent, "Kalex G", was introduced early this month by Hart Products Corp., New York. The product exhibits high sequestering power for heavy metal ions, is not recommended for sequestration of alkaline earth ions.

On a solids basis "Kalex G" shows the following chelating power (grams of metal ion sequestered per gram of "Kalex G") : nickel, 0.44; cobalt, 0.62; zinc, 0.38; copper, 0.52; ferric iron — pH 7, 0.90; ferric iron — pH 9, 1.3; ferric iron — pH 11, 1.7.

"Rise" Aerosol Shave Patent Upheld

THE validity of the "Rise" aerosol shave cream patent was upheld and Colgate-Palmolive Co., Jersey City, N. J., was ruled to have wrongfully appropriated trade secrets belonging to Carter Products Co., New York, in a preliminary decision handed down Jan. 31. The decision by Federal Judge William C. Coleman, sitting in Baltimore, climaxed an eight week trial in which Carter claimed that Colgate had infringed the "Rise" shaving cream patent, which was issued in 1949.

Judge Coleman's ruling was a preliminary one, following the close of arguments on Jan. 31. A statement of his findings was to have been issued around mid-February.

Stalfort Pressure-Pak, Inc., which loads Colgate's aerosol shave cream, and Read Drug & Chemical Co., Baltimore, whose drug stores distribute it, were also found liable for infringement.

Colgate admitted early in the trial that it had infringed the patent to make its "Rapid Shave" aerosol shave cream, but contended that the "Rise" patent was invalid because six prior patents had anticipated it. The court discussed in detail the six patents, three of which were issued in the United States, one in Belgium, one in Germany and one in South America. Judge Coleman found none of them contained the soap and propellant combined in such a way as to anticipate the invention and the new idea contained in the patent under which "Rise" is manufactured.

Colgate's defense that the idea of pressurized shaving compounds had been in prior use was also struck down when it was pointed out that evidence was weakened because an important experimental notebook was missing from the chain of proof.

Judge Coleman ruled that Colgate had not offered any inducement to Norman Fine to come to

them. He did say, however, that Colgate did not sufficiently investigate Fine's contract with Foster D. Snell, Inc., New York consulting firm in whose employ Mr. Fine worked on what eventually was to become "Rise." Under the contract, Mr. Fine was pledged to secrecy about the "Rise" formula. Two patent applications covering developments in the pressurized shave cream field were filed by Colgate, in Fine's name were brought out. Carter charged that two months after Mr. Fine left Snell he was working for Colgate developing a pressurized shave cream.

Henry Heads SAACI

John F. Henry, Adams-Henry Chemical Co., Rutherford, N. J., has been elected president of The Salesmen's Association of the American Chemical Industry, Inc., it was announced recently. Other newly elected officers of SAACI are: E. L. Collins, Chilean Nitrate Sales Corp., New York, vice president; V. L. Rebak, Grace Chemical Co., New York, treasurer; and R. J. Roberts, Emery Industries, Cincinnati, secretary. New SAACI directors include: R. L. Williams, Givaudan-Delawanna, Inc.; S. B. Scott, Wyandotte Chemicals Corp., Wyandotte, Mich.; H. B. Clark, Diamond Alkali Co., Cleveland; R. H. Kampschulte, Celanese Corp. of America,

John F. Henry



New York; G. S. Furman, George Uhe Co., New York.

Brake Fluid Safety Statute

The Chemical Specialties Manufacturers Association is sending a tentative draft of a possible brake fluid statute to the members of its legislative committee and the administrative committee of its Automotive Division. The term "hydraulic brake fluid" is defined. It is suggested that only those hydraulic brake fluids conforming to current specifications for heavy duty fluids established by the Society of Automotive Engineers may be manufactured for sale or use in the state or shipped into the state for use or sale therein. All brake fluid containers must be labelled with a notice of this conformity, such as "Meets SAE Heavy Duty Specifications No. 70RI," etc. Enforcement powers should be vested in a department or official. No person shall operate on any highway any motor vehicle equipped with a hydraulic brake fluid unless it complies with the requirements set out above.

Kramer Leaves Salomon

A. A. Kramer, for the past 42 years with L. A. Salomon & Bro., New York clay, talc, waxes and activated carbon company, has recently resigned. Mr. Kramer expects to announce his future plans following a brief vacation.

Harry E. Pfaltz Dies

Harry E. Pfaltz, 57, a perfumer and president of Harry E. Pfaltz, Inc., New York, died Jan. 24 at Flower and Fifth Avenue Hospitals. He had studied the perfumery business in Leipzig, Germany, between 1913 and 1915, and since 1927 had been president of the firm bearing his name. His survivors include his widow, Mrs. Phyllis Perrine Pfaltz; a daughter, Mrs. Richard Morse; his mother, Mrs. Henry Pfaltz; a sister, Mrs. A. L. van Ameringen, wife of the head of Van Ameringen-Haebler, Inc., New York, and a brother, Hugo Pfaltz.

McAdam Names New Rep.

T. F. McAdam, New York broker in oils, fats, chemicals, and waxes, announced last month the

tor of Marigold Dairies, Rochester, Minn., before joining McConnon. He is a native of St. Paul, and a University of Minnesota graduate.

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Honor Daggett

Ross LeB. Daggett, vice president in charge of production and chief chemist of George Lueders & Co., New York, became the fifty-seventh member of the firm's twenty five year club. He was guest of honor at a dinner given to celebrate the occasion and was presented by the firm with a service pin and wrist watch and received gifts from officers and directors and from employees of the company.



W. H. Campbell, Jr.

appointment of William H. Campbell, Jr., as sales representative in the New Jersey area. Mr. Campbell, who was previously associated with Garrigues, Stewart & Davies, Inc., New York, operates from Plainfield, N. J.

New McConnon Officers

The elevation of J. R. McConnon to chairman of the board and of James McConnon as president of McConnon & Co., Winona, Minn., took place at the annual meeting of the board of directors of the company it was announced Jan. 28. Previously J. R. McConnon had been president and James McConnon vice-president. Also elected at the meeting were H. C. McConnon as vice-president and G. A. Ostrom as secretary-treasurer. Elected to the board were W. T. Lemmon and R. W. Lundberg. Mr. Lemmon is sales manager of Mackwin Co. division of McConnon & Co. Mackwin manufactures and sells agricultural chemicals including insecticides, fungicides and weed killers. Before joining McConnon, Mr. Lemmon was in charge of the sale of agricultural chemicals for Shell Chemical Co. in the middle west. He is a native of Perry, Mich., and attended Michigan State Normal School.

R. W. Lundberg is controller of McConnon & Co. He was audi-

USDA Eases Chlordane Label Rules

A WIDENED use of the insecticide chlordane as a result of the revision by the U. S. Department of Agriculture of its rules regarding the labeling of household insecticides containing chlordane is presently foreseen in trade circles. The changes were made through a revision of Interpretation 19, issued Jan. 14 and covering regulations for the enforcement of the Federal Insecticide, Fungicide and Rodenticide Act.

The new ruling now permits the use of chlordane for household control of houseflies, mosquitoes, wasps, box elder bugs, crickets, spiders, centipedes, scorpions and clothes moths. These insects are in addition to the previously cleared usage of chlordane for control of roaches, waterbugs, silverfish, ants, brown dog ticks and carpet beetles.

In addition to extending the use of chlordane, newly revised interpretation also provides for increased concentrations, where required for insect control. Permissible concentration of chlordane in liquid concentrations, oil solutions, emulsions and self-propelled sprays has been increased from a maximum of 2.5 percent to three percent. Dry powders may now contain up to six percent chlordane, as against a maximum of five percent formerly.

Join Roure-Dupont

Jacques Bersia has joined Roure-Dupont, Inc., New York, as a perfumer, it was announced re-



A. Mathieu



J. Bersia

cently. Mr. Bersia has served for the past eight years as perfumer in the Grasse laboratories of Roure-

USDA Eases Chlordane Label Rules

The revised instructions permit use of chlordane insecticides for mothproofing of clothing and woolens going promptly into storage and which will be dry cleaned before use after removal from storage. They continue to limit the use of these insecticides against fleas and bed bugs.

Labeling that makes claims for spraying in the air or for use of fine mist sprayers where the possibility of food contamination exists is not allowed, but "the directions for killing of houseflies, wasps, and mosquitoes indoors shall provide for thorough and repeated spraying, painting or dusting of selected surfaces such as doors, around windows and areas frequented by these insects."

The new revision states further:

"Since issuing Interpretation 19 on September 11, 1951, certain new facts concerning chlordane as it is now being produced have been established. Technical chlordane as marketed for insecticidal uses prior to 1951 contained considerable amounts of hexachlorocyclopentadiene as an impurity. It has been shown that the presence of this compound was a factor in the hazard of the early chlordane. Present manufacturing processes can eliminate more of the hexachlorocyclopentadiene and technical chlordane should not now contain more than 1% of this compound. On the basis of this change in composition of technical chlordane, certain changes are justified in the original interpretation 19."

Bertrand Fils & Justin Dupont. At the same time the appointment of Andre Mathieu was announced. He succeeds Charles Edick as the firm's representative in Chicago. Mr. Edick retired early this year for health reasons after having represented Roure-Dupont for a period of 17 years. Mr. Mathieu has represented various French firms in the United States since his arrival here three years ago.

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Request N.Y.C. Fire Changes

Changes in the New York City fire legislation concerning flammable and combustible liquids were the subject of a petition submitted to the Commissioner of the New York City Fire Department by the Chemical Specialties Manufacturers Association in conjunction with the Manufacturing Chemists Association and the National Paint, Varnish and Lacquer Association.

The word "flammable" is suggested in place of "in-flammable" which is described as obsolete. "Flammable" has already been accepted by the Interstate Commerce Commission in 1949, and has since been adopted by A.S.T.M. and other groups.

Liquids should be considered flammable if their flashpoint is below 80°F, determined by the Tagliabue Open Cup Method (ASTM). Currently, the New York City Fire Department rules a liquid flammable if the flash point is below 100°F. The change would bring agreement with the sanitary codes of the New York City and New York State Departments of Health, and with the New Jersey Department of Labor and Industry. The existing discrepancy would require a product with flash point at 85°F to be labelled in the states of New York and New Jersey, but not in New York City.

A product should be considered combustible if its flash point is below 150°F instead of the present 80°F (Tagliabue open cup).

The petition suggests that containers of flammable and combustible liquids should no longer be required to show the number of

permit or certificate of approval which manufacturers or distributors of such liquids must obtain in New York City. Furthermore, the requirement that such permits or certificates must be obtained should be eliminated.

Under current rules warning labels on dangerous liquids must be duplicated, because the wording prescribed by the City Fire Department differs from that required by the City and State Health Departments. It is suggested that the labelling rules be amended so as to agree.

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Sutliffe, Wyatt to Shea

The appointment of J. B. Sutliffe and W. Newell Wyatt to head industrial chemicals sales for Shea Chemical Corp., Baltimore, in the east and midwest, respectively, was announced Jan. 26 by Vincent H. Shea, president. Mr. Sutliffe, who will direct sales in the eastern industrial area, formerly was executive assistant to the vice-president in charge of sales in New York City of General Chemical Division of Allied Chemical and Dye Corp., New York. He had been with the firm for 17 years and had also served as manager of the San Francisco and Houston sales offices.

Mr. Wyatt's territory includes the midwest and southern industrial areas. He will make his headquarters at the firm's plant in Jeffersonville, Ind. Previously he had been sales manager for Theobald Industries, Kearny, N. J. Earlier he had been with Westvaco Chemical Division, Food Machinery & Chemical Corp., as Chicago district manager, and later as divisional manager in New York.

Shea Chemical Corp. in September completed one of the major U. S. sodium phosphate plants in Jeffersonville, Ind. In 1953, the company built what it claims is the country's largest elemental phosphorus plant in Columbia, Tenn.

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NSSA Program Details

Details of the program for the 32nd annual convention and trade show of the National Sanitary

Supply Association, to be held in Atlantic City, N. J., March 20-23, were released early this month by Leo J. Kelly, executive vice-president of NSSA. The exhibits in the Atlantic City Auditorium will be open all day Sunday, Mar. 20, from 10:00 a. m. to 7:00 p. m. A new ruling of NSSA provides that non-members eligible for membership in NSSA must pay a registration fee of \$20 to visit the exhibits on Mar. 20, the only day the exhibits are open to non-members. The \$20 may be applied against yearly membership dues should non-members be admitted to membership in 1955.

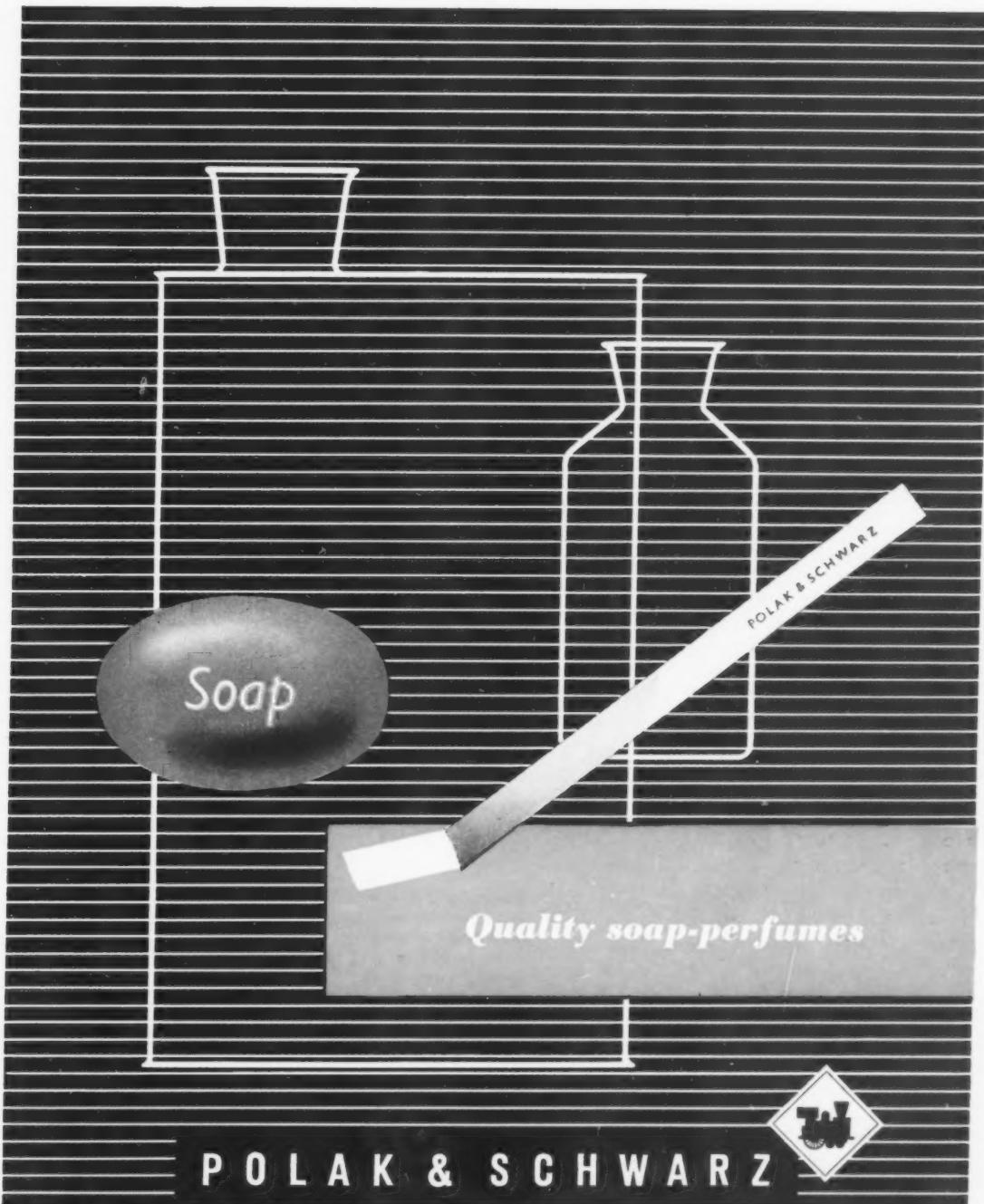
Instead of opening the exhibits on the second morning of the meeting, Mar. 21, a general convention session will be held at the headquarters Traymore Hotel from 10:00 a. m. to noon. The exhibits reopen at 1:30 p. m. following the group luncheon and close at 7:30 p. m. The business session Mar. 21 will be featured by reports of the association officers and a talk by Dr. Tennyson Guyer, executive assistant and public relations director of Cooper Tire and Rubber Co., Findlay, O.

The exhibit hall is open from 9:00 a. m. until noon, Mar. 22 and does not reopen for the balance of the day. A group luncheon Mar. 22, at the Traymore Hotel precedes the second business meeting of the association which will be held from 1:45 p. m. until 4:30 p. m. Following a report of the nominating committee and the election of officers, there will be a two-part panel on "How to Operate a Janitor Supply Business." One panel will run from 2:00 to 3:00 p. m., and the second one will run from 3:00 to 4:00 p. m. Each will be participated in by the heads of six sanitary supply firms, and the panel will have as its moderator, Tom Opie, Opie Brush Co., Kansas City, Mo., first president of the National Sanitary Supply Association.

The banquet and floor show will be held the evening of Mar. 22, and the meeting concludes the following day with exhibits open from 9:00 a. m. until 1:00 p. m.







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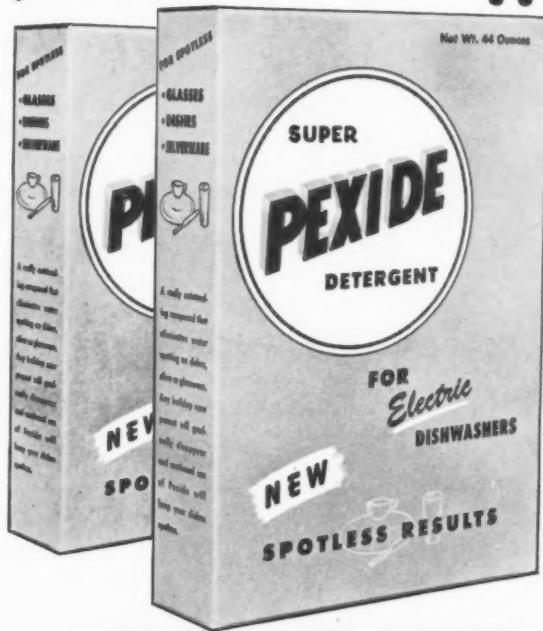
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| Color Gardner 1933 | 2 — 4 | 2 — 4 |
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CMSA-14

... in brief

as the editor sees it . . .

 SHELF ROOM With numerous new chemical specialties, detergents and the like crowding their way into the chains, the problem of shelf room in the average supermarket looms larger and ever larger. Today, the section set aside for chemical products in the supermarkets finds every square inch of shelf space taken and products crowded into each other with a free abandon. The difficulty in finding wanted products becomes great; confusion is inevitable. But the stores are up against it. If there is a public demand for a product, they must stock it. But where?

Manufacturers with several similar items, we believe, are going to find all except one crowded off the shelves by dint of plain necessity. Stores are going to be more and more limited in the number of brands of any product they can carry. There will be progressive and continuous elimination of products on the shelves, — and the devil take the hindermost. It's got to come. The battle for shelf space becomes more of a dog fight with each passing day. And the emphasis on package design and the extent of retail advertising loom larger and ever larger in this battle of the brands.

•

 DOWN, BUT NOT OUT Is soap on the way out? Elsewhere in this issue, John McCutcheon takes a swing through the pros and cons of this argument and comes up with the conclusion that there is no reason why detergents should not command 75 to 80 per cent of the "soap" market within ten years. He goes on to say that the ratio for 1953 was 45 soaps and 55 synthetics and that this figure is likely to show even a higher percentage for synthetics when the 1954 returns are in.

He points out that poor people still wash with

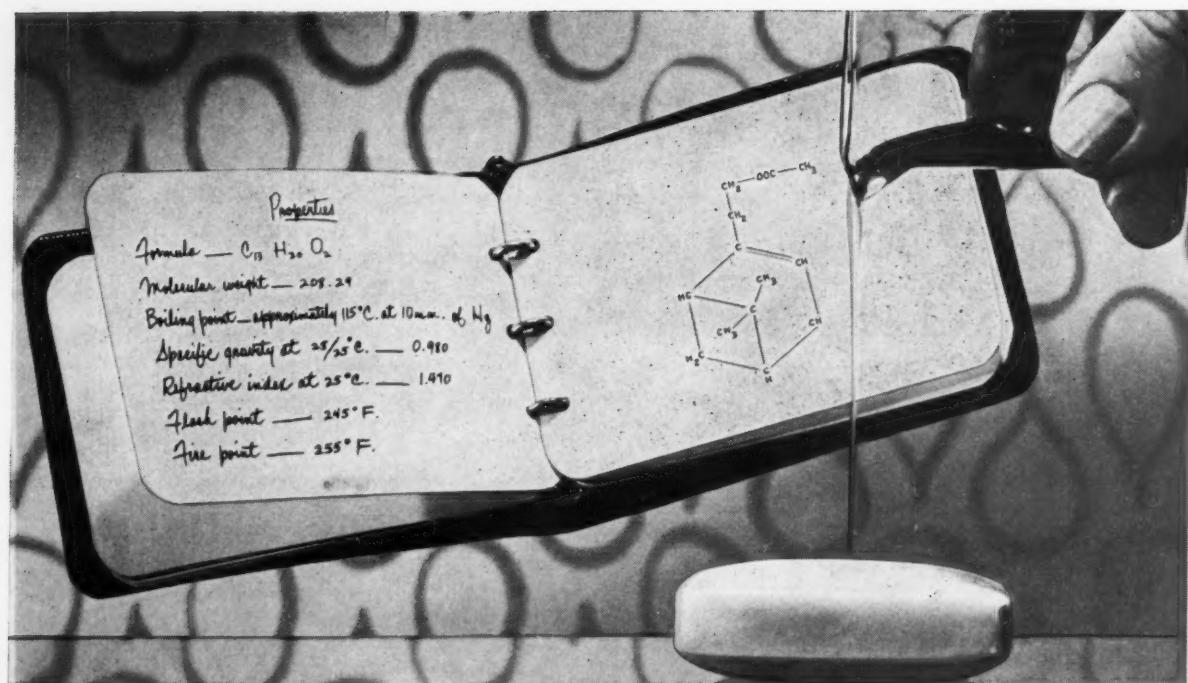
bar soaps because they are cheaper and that cost has been a factor in retarding the use of detergents. But these factors are transitory; they will change, he says. Even in toilet soaps, the bulwark of soap market strength, the problem of a satisfactory detergent bar is one which the "ingenuity of the chemist" soon will solve. And he sees soap in ten years reduced to a "small basic core of industrial uses."

Well, McCutcheon ought to know. He's been close to the subject these many years. But, there are still times and places where soap does a better washing job, — and what with all this soft water equipment being sold, soap could have advantages. The fact remains that the leading soapers have just about quit selling soap. They're pushing detergents, not soap. And what they push, the public buys. Yes, it looks like soap is down, and almost out, — that is unless some large marketer decides to sell soap again.

•

 RASH A rash of child poisoning cases seems to break out periodically in various parts of the country. Recently, one California hospital had four cases in a single day. It is significant that all were infants three years of age or under. One child drank an unknown quantity of liquid detergent, another a half-bottle of plastic glue, another took an assortment of home remedies and the fourth twenty sulfa tablets. All four recovered quickly after stomach pumping.

None of these was particularly dangerous, but the mothers probably screamed for the police and ambulances, and the record shows four more "child poisonings by dangerous chemicals and drugs." Obviously, the mothers were the real culprits, not the makers of the products. Plain carelessness. Of what avail would be warning



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labels? Also add the usual touch of newspaper hysteria, today on the alert for "child poisonings", and there you have it. Well, maybe these waves of newspaper hysteria are good, — good publicity to warn careless parents. Who knows?

 NEW LOW . . . Said a newspaper editorial: "The hucksters hit a new low in soap-selling schemes this week when one of the nation's largest soap producers tied a sales drive to the coattails of the campaign to restore the historic steeple of Boston's Old North Church. The steeple toppled in a hurricane on August 31."

Then the editor says that the soap company will give a nickel for every boxtop from one of its products up to \$25,000, — and that the firm "hooked worthy organizations such as the Girl Scouts" in on the deal.

And then the editor's heart really bleeds for dear Old North Church: ". . . that any firm's making capital out of hurricane damage to one of the nation's revered landmarks even borders on the sacrilegious." It's carrying commercialism a bit too far, he concludes.

In our book, this criticism is just so much slush. What better way to get full public participation of all the kids and housewives of the community in restoring the church steeple? Too much commercialism! Tommyrot! It takes money to rebuild even "revered landmarks." And we think that the Girl Scout hook-in was an excellent idea, well worthy of the Scouts ideals.

 CLAIMS . . . Slowly, we are coming to the conclusion that maintenance people are prone to exaggerate the amount of cleaning materials which they use. Mostly, as we see it, they give a figure, — when they give a figure, — which is the amount of this or that type of product which they *should* use, but for one reason or another, do not use. In short, they are inclined to paint a prettier picture than the facts would justify in regard to the upkeep and cleanliness of their establishments. Many of them talk big, but buy little.

There are those who tell us that the mainten-

ance and cleaning chemical business should be two or three times what it is if the buyers didn't pinch on materials and labor. That may be. And maybe it points up a new sales approach, going beyond the mere selling of the purchasing agent what he wants to buy, — going to maintenance management and selling them on the idea of keeping their places cleaner. And educational job which some have tried and a few scattered suppliers have done successfully.

Maybe the fault lies in our present day selling, — lots and lots of calls, take their orders and get out, — a price book with a thousand or more items. No real chance to sell an idea or to sell the buyer what he really should have. Yes, our selling could be just skimming the surface, just like the buying which covers not even the bare necessities.

 FATS SQUEEZE . . . Will oils and fats be short in 1955? Could be! The fact of a possible tight market in fats may have taken many by surprise. As synthetic detergents took over more and more of the household soap market, less attention seemed to be paid to what was happening to fats and oils. In fact, the significant comment was often heard that the soapers had "lost control" of the tallow market. As a result of this preoccupation with the progress of the synthetics, the statement at the recent soap industry meeting that tallow had more than doubled in price in the past 18 months seemed to leave many in the audience somewhat agape.

What has happened is that as the European economy scrambles back to its feet, the demand for edible fats increases. As a result, U.S. exports of both edible and inedible fats, upgraded for edible purposes, have boomed. Stocks held by the CCC have virtually disappeared and anticipated lower production could mean a squeeze. Already some soap prices have responded to the growing pressure on fats, and should the action around Formosa get hot, prices could really skyrocket.

Even now grocers are beginning to talk of higher prices. For the soaper, the dilemma is an old one: to buy or not to buy?

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as the reader sees it...

A Typo

Editor:

A typographical error has been spotted in our paper, "Methodological Studies on the Square-Diluent Method for Testing Disinfectants" which appeared in the November 1954 issue of *Soap & Chemical Specialties*. I refer to page 137, first column, lines 22, which reads "... *aureus* was greater than 1:61". This should read "*aureus* was greater than 16:1". As you can see this is a rather misleading error.

R. L. Stedman
Industrial Testing Laboratory
Philadelphia Naval Shipyard
Naval Base
Philadelphia

Case of Misinformation

Editor:

Just to straighten out the record for the future, we would like to correct what would appear to be a case of misinformation about our products.

A gaily decorated carousel in the Park Avenue corner of the lobby of Lever House, New York headquarters of Lever Brothers Co. during the recent holiday season brought in bushels of appreciative fan letters, according to J. Edward Drew, director of public relations for Lever. The display featured a life-size Santa Claus riding in a sleigh overflowing with colorfully wrapped packages of Lever products. Elfin helpers, perched on a second sleighful of girls, whirled merrily in a dazzling parade. Mrs. Edythe Belmont, Lever packaging consultant, supervised the display, which was constructed by Tom Lee, Ltd.



FEBRUARY, 1955

In his "Soap Plant Observer" column in the January issue of *Soap & Chemical Specialties*, John W. McCutcheon wrote that our company has been producing a certain type of alcohols "for several years by the Oxo Process." Actually, we never have offered alcohols produced by this process, and we are not offering any Oxo-base chemicals now.

Colin C. Campbell,
Rohm & Haas Co.
Philadelphia

Fly Control Correction

Editor:

In your report on the Eastern Branch of the Entomological Society of American meeting, on page 163 of the January, 1955 issue, you quoted me as saying there were no significant results obtained with Diazinon and Pirazinon.

What I said was there was no significant difference between the results obtained with Diazinon and

those obtained with Pirazinon in fly control.

In the paper which I presented it was shown that both Diazinon and Pirazinon gave on the average of from 40 to 50 days control of flies. Four of the barns sprayed gave control of flies for 116 days.

R. G. Scott
Geigy Agricultural Chemicals
Research Laboratory
Bayonne, N. J.

Not Foreigners

Editor:

We received a subscription bill with an indication that ours is a foreign subscription. We should like to have you know that ours is not a foreign subscription. We in Hawaii are very touchy about this point. So don't rub it in!

Holo-Ka-Hana Chemical Co.
Honolulu, 15, Hawaii

Our sincere apologies to our friends in Honolulu. It was a slip-up in our subscription department. And we wouldn't be surprised that somebody caught hell for the error.—Ed.

The Eyes . . . Are On You

Editor:

We note with interest the news item on page 157 of the January issue of *Soap & Chemical Specialties* concerning our firm. May we respectfully call your attention to the fact that our firm is located in Culver City, California, not Texas. Would it be possible for you to print a correction in the next issue of the magazine so that we do not have to build a plant in Texas in order to live up to your article?

Lewis S. Lawson
Lawson Chemical Products Co.
Culver City, California

We are sorry for the blooper that slipped into the January issue, particularly since mistaking California for Texas and vice-versa comes so close to the unforgivable. Possibly what may have thrown the rewrite department is the fact that Lawson's Culver City, CALIFORNIA, telephone exchange is, believe it or not, TEXAS 0-1627. Ed.

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Perfuming of Toilet Soaps

By F. V. Wells*

FOUR attitudes toward soap perfuming should be taken into account in order to insure the production with the minimum waste of time and effort of a successful soap perfume. They are: (1) psychological and aesthetic; (2) economic; (3) technical and (4) chemical. The fourth term is loosely used in this context to cover physical-chemical and biochemical as well as straightforward chemical reactions.

The governing factors are, or should be, those of a psychological, aesthetic and artistic character. While it is most desirable that the soap perfumer should have a sound scientific knowledge of the probable behavior of aldehydes, ketones, esters and so on, when they are incorporated in a soap base, it is even more essential that he shall be an artist in perfumery, able to understand, anticipate and satisfy changing fashions in the public taste for perfumes. In addition to this, he ought to be capable of selecting and using his raw materials to the best economic advantage. The techniques that he employs in his work are likewise extremely important, for they should be adopted and modified in such a way as to save him the maximum amount of time and trouble, both during the creation and compounding of the perfume and its subsequent shelf-testing in soap.

Technique will be dealt with first — partly because it is of fundamental importance to know exactly *how* to begin compounding a soap perfume and partly, too,

because very few textbooks appear to be at all informative on this subject. (From this general criticism I would specifically exempt Paul Jellinek's "Praktikum", which has now been translated into English under the title of "The Practice of Modern Perfumery", Leonard Hill, Ltd., London, 1954. This work contains quite a good chapter on the Technique of Compounding.) In my own case, I carry out all my initial, small-scale experiments in compounding by utilizing a 10 c.c. pipette, with each c.c. divided into tenths, this affording a convenient means for making the compound on a percentage basis. All liquids are thus measured by volume, while all solid materials are weighed out in the usual manner. When at work, I normally start with five pipettes steeping in alcohol and another five standing in a draining rack.

I have compared notes on this subject with my friend Jack Pickthall, chief chemist of Polak & Schwarz (England) Ltd. He too utilizes the large pipette but, in addition, he finds a one c.c. pipette graduated in 1/100ths extremely useful. He adds, quite rightly, that it is often a good idea to use a graduated cylinder as the container for the blend: thus, if a 50 c.c. cylinder is used, the larger volumes can be poured directly into it, followed up with pipetted amounts. In some cases, even, a 10 c.c. cylinder is useful, graduated in 1/100ths.

I agree entirely with Jellinek when he writes that this method of volumetric compounding "has the great advantage of being more convenient and more rapid than the

use of a balance and, besides, it is more economical in the use of materials." But it is fair to add that it also has its disadvantages: the first of these being the rather wide margin of inaccuracy that can be introduced through differences in the viscosity of the liquids pipetted; while the second is the possibility of contamination. The best way of reducing margins of error is to use 50:50 or, if necessary, weaker dilutions of viscous materials and by making sure that the pipettes are blown as free as possible from adherent alcohol before use. It is often good practice to use standard solutions of one material in another (rather than in alcohol) or eutectic mixtures such as 50:50 cinnamic alcohol and methyl cinnamate—the latter giving a free-flowing solution. As for the problem of contamination, this is best dealt with by using a fresh pipette for each raw material and by keeping current stocks of the latter to a minimum, i.e. in bottles ranging from about $\frac{1}{2}$ oz. to two oz. capacity. It is most desirable, to avoid the use of small bottles that have a neck orifice too narrow for the easy introduction of the pipette.

There is, of course, always a probability of introducing errors unless specific gravities are duly taken into account when translating volumetric into mass measurements: for example, when working by volume one could be using one c.c. of a product with a specific gravity of 0.85, thereby using only 0.85 grams or one c.c. of a substance with an s.g. of 1.2, thereby using 1.2 g.

Steeping alcohol should be

*Editor of *Soap, Perfumery & Cosmetics*, London. Consultant-Perfumer.

changed quite frequently, as alcohol that has become noticeably perfumed is the most obvious source of contamination. Excessive use of alcohol as a diluent of raw materials should be guarded against, in view of the undesirable diluting effect that it exerts on compounded soap perfumes. (I would note here, by way of an aside, that this remark does not apply to the compounding of face or talcum powder perfumes, where the presence of alcohol is a definite aid to maximum dispersion in the vehicle.)

Most soapmakers whose laboratories are equipped with the usual small-scale amalgamating, milling, plodding and stamping equipment, are quite prepared to pass a first judgment on the basis of a seven c.c. sample of perfume, which is duly incorporated into small tablets suitable for U.V. lamp exposure and ordinary shelf-testing. The balance of two to three c.c. I normally retain for reference until a final selection is made. Later, confirmatory experiments may involve the pipette-production of 20 or 30 c.c. "batches", followed by any adjustments that may be necessary when larger quantities are required by the soaper or, perhaps, the provision of larger equivalent samples compounded solely by weight. In any case, I have always found the 10 c.c. pipette an ideal tool for the convenient and rapid compounding of the initial samples.

Jellinek has described an interesting type of perfume-dispensing bottle, which carries its own pipette and is self-sealed by means of a ground-in glass bulb-stopper. It might well prove superior to the pipette for some purposes, especially when one is dealing with popular stock liquids that find their way into many different formulae. The makers are said to be the Leerdam Glasswerke, Leerdam, Holland. At least one English glassworks and probably some American firms also, supply pipettes fitted with plunger rods—thus obviating the necessity for using the conventional oral suction method. For my part, I find

these latter devices rather clumsy in use: they tend to leak, are awkward to handle, and are all too easily broken. The simpler the pipette the better. Some people might well prefer to use one of five c.c. capacity, as being shorter and easier to handle. The fact that the user inhales perfumed vapor is an aid rather than a hindrance to compounding, so long as the number of experiments is kept to a practical minimum for each period of work and the breathing-in of fatiguing compounds like the ionones is done only on a limited scale. I have even pipetted chloroform during the compounding of toothpaste flavors, but this practice is said to be habit-forming and is not to be recommended. It is obviously also unwise to breathe in large quantities of any kind of toxic vapor except perhaps in carefully diluted form. With these provisos, the volumetric method of compounding, using a collection of standard pipettes, is perhaps the most satisfactory technique yet devised. Progress might lie in the direction of using improved plunger-pipettes or specially made dropper-bottles.

It will be appreciated that these are merely the elementary approaches to the soap perfumer's techniques. Much more advanced attainments are naturally involved in compounding itself and in such specialized branches of compounding as the matching of other people's soap perfumes⁽¹⁾. Before proceeding with this subject, however, I think I ought first to refer to the all-important matter of soap perfumery in its economic aspects.

Price Factor

ECONOMIC considerations have a determining influence on the perfume used in all but the most expensive toilet soaps. The point of view of the larger manufacturers of such soaps, intended for the mass markets, has been admirably stated by E. D. Kilmer⁽²⁾:

Since margins of profit within the soap-detergent industry are

low, emphasis must be placed on obtaining maximum value from the raw materials which are employed in perfumery. Accordingly there is attraction to those aromatic materials with maximum fragrance value and lowest cost. The perfumer is further concerned with availability and stability of price. It is because of these two factors that the trend toward wider use of aromatic chemicals in detergent perfumery is likely to continue. In the competition of natural and synthetic materials we find on the one hand a picture of wide fluctuations in cost and supply for many essential oils and on the other stability and more ready availability. The demand for stability is evident even in natural product usage where essential oils whose prices tend to be steady enjoy constant or expanding use while use is declining for some oils which have exhibited wide fluctuation. It is appropriate to commend the manufacturers of aromatic chemicals for their development programs, which have produced both improvement in odor quality and many new synthetic odorants.

Though written by an American with reference to the U. S. market, these observations apply equally well to European conditions. At the time of writing, the greater portion of cheap to medium-priced toilet soap sold in the U.K. retails at about 7d per three oz. tablet. It has been authoritatively stated by Jack Pickthall that the average cost of perfuming one cwt. of such soap might well work out at something between 15s. and 30s.⁽³⁾ This, I would add, is between four and eight per cent of the retail price, a percentage that goes much higher when one bases it on the manufacturer's cost price, and is in fact a major cost factor, ranking in this respect with cost of production, packaging and advertising. Although the balance of perfume cost against selling price is much lower in some of the more expensive toilet soaps, there are very few soapmakers indeed who can afford to allow the

perfumer all the scope that he might like, and his creations must therefore be devised between fairly strict costing limits.

An interesting air of controversy surrounds the problem of choosing between high cost perfume materials, used in small quantities in a soap perfume, and the more liberal inclusion of lower-priced aromatics. Whatever other considerations arise, there is no doubt that odorants of maximum intensity and persistence are of greater use to the perfumer than more delicately floral products that tend to fade. It is interesting in this connection to compare two contrasting opinions, the first being that of James Bather, former Coty perfumer, while the second has been expressed by Paul F. Spencer, perfumer to Cussons Sons & Co. Ltd., makers of the extremely popular "Imperial Leather" toilet soaps. Bather expressed the following views in 1945⁽⁴⁾:

"For high-class toilet soaps, absolutes and concretes are the best compounds. The results obtained are excellent and the fragrance imparted is lasting. Normally distilled essences or synthetics cannot compare with these compounds. The high initial cost is the chief cause of many manufacturers' reluctance to consider them. There is no justification for this superficial economy. Experiments show that the use of only 0.25 per cent natural jasmin absolute or concrete gives a stronger and more lasting odor than as much as 10 per cent of the synthetic jasmin. Certainly, the synthetic can never impart the finesse of the natural, no matter how well the initial odor of the latter is imitated. In normal times, when stable prices are ruling and raw materials are plentiful, there can be no question of the advantages of the expensive compound, especially when high quality is aimed at."

Bather then quotes an expensive formula containing as much as eight per cent of flower absolutes and a further three per cent of lavender absolute Barreme, adding that "two to six ounces added to



Soap perfumer working in one of four "perfume organs" in the recently opened research laboratories of Lever Brothers Co., New York, in Edgewater, N. J.

one cwt. of soap base produces a soap with a lasting fragrance."

Spencer takes what I am certain is the majority point of view in his comments on this same subject, published eight years later⁽⁵⁾:

"Price must of necessity play an important part when considering a soap perfume, but it must not be taken for granted that the more expensive it is the better it will turn out in the finished soap. It is useless to make sweeping statements that perfection can be obtained by using large quantities of flower absolutes, and adjusting the cost by using less perfume. A simple calculation will show that in the case of a perfume costing say 30s.

per pound, if only one per cent of jasmin absolute is used it will more than double the price, and in use, the effect in a heavy bouquet is not noticeable at all, so that to use one-half the quantity one would lose odor value . . . The use of floral concretes is to be encouraged, but once again their price, in most cases, puts them out of the range of the soap perfumer." Spencer makes exception of such useful and relatively moderately priced materials as mimosa, lavender and spike concretes.

The governing factor is not, of course, the initial cost of any particular material but its value-for-money yield when incorporated

in soap.* A fairly sound method of compounding, from both the economic and chemical aspects, as well as from the psychological and aesthetic, is to base one's compound on a balance of one or two stable synthetics plus a few essential oils and resins. The simpler the formula the better, all other things being equal. Materials normally added to alcoholic perfumes to give fine *nuances* or shadings are often, though not always, doomed to lose their effect when added to a soap perfume: like all the other ingredients, therefore, they should be used only on a good yield-for-money basis.

The selling price of the soap is naturally an important factor, as is also the quantity of the soap perfume to be used in the soap—especially as the latter can vary from 0.5 to three per cent or even higher. It is also cheaper practice in the long run to use a fine quality milling base of little intrinsic odor.

Wherever possible, the soap perfumer should make up his own compounds and modify or adjust his own essential oils to his own special requirements. In general, it is unsound economy to purchase special "soap grades" of materials, artificial essential oils and crude residues; nor is it advisable merely to rely on analytical figures for ester content, etc., as the latter can easily be faked. Olfactory tests for raw materials are of paramount importance. Sometimes comparatively unrefined essential oils are to be preferred to their more delicately distilled competitors; and there is little point in purchasing chemically pure isolates for purposes where the usual by-notes caused by traces of impurities can themselves help to fortify or round-off the main odor. Here we may also note the utility of the soap grades of ionones and terpenes which afford perhaps the chief exceptions to the rule against using such special soap grades of perfumery materials.

In other cases it is quite sound economy for the perfumer to purchase ready-compounded special-

ties. I have in mind, for example, two rose compounds—one of French and the other of Swiss origin—which make all the difference to a red rose for soaps when included in the soap perfume formula in the proportion of five to seven per cent. As these specialties are not expensive, and as they are probably based on pure synthetics that are not normally available to the average perfumer, their inclusion can be fully justified.

By way of a footnote on the economics of soap perfumery, it is desirable to emphasise the fact that it is not always a true economy for the soapmaker to compound his own perfumes. All the well-known perfumery supply houses are not only in a position to manufacture and process aromatic materials, and to buy favorably first-class raw materials in large quantities from source, but by long and specialized experience they are able to offer a wide range of attractive soap perfume compounds from stock or to evolve exclusive blends by arrangement. Soapmakers who prefer to have their soap perfumes made on their own premises are obliged to lay aside a fair amount of capital in stocks of materials, in addition to which they must foot the bill for experimental work, production, maturing and storage costs. In the case of a firm that has not yet acquired these facilities, the risk to be taken is quite a considerable one. Nevertheless, there is a good deal of satisfaction, and in some cases a commensurate financial gain, to be derived from compounding one's own soap perfumes—even if most of the creative and experimental work is farmed out to an independent consulting-perfumer. In this way many new soap perfumes have been introduced not only in England but also in France, Italy, India and Peru. The demand for this type of service seems indeed to be on the increase.

It is difficult to draw a hard-and-fast line between the technological and artistic aspects of soap perfumery, on the one hand, and the

inescapable chemical background on the other. Although a sound knowledge of chemical reactions is most desirable, it must be admitted that many changes undergone by perfumery materials in soap are not easily predictable, with the result that either a part or the whole of a perfume has to be tested empirically in the standard soap base in order to enable the perfumer to arrive at a reliable decision.

The most obvious variable quantity is the soap base itself. This should be a first-grade milling base of low free alkali content, good color and odor: it should also be as free as possible from pro-rancidification and discoloration factors. When perfumery materials are intimately dispersed and partially solubilized in a soap/water system such as toilet soap, anything that favors a high pH will adversely affect many perfumery materials. A soap finished as near as possible to neutrality (i.e. free alkali under 0.1 per cent) will far less readily destroy the odors, for example, of benzaldehyde, methyl anthranilate and certain phenolic compounds, than will a poorly finished base with a high free alkali content. Some interesting experiments can be carried out with benzaldehyde, using one per cent to perfume soap bases of varying alkalinity; and also subjecting a second run of samples, as suggested by Pickthall⁽³⁾, to sensibly increased temperatures during the process of perfume incorporation. Here the nearly neutral soap kept at as low a temperature as possible will smell plainly of benzaldehyde long after the alkaline soaps (and especially those subjected to heat) are practically odorless.

A good milling base will be free from metallic contamination, including traces of hydrogenation catalysts, metal or rust particles from cogs or chains; and the finished toilet soap itself should also be kept free from traces of iron, copper, brass (from stamping dies) chemicals from colored compounds etc. Phenols and other perfumery

(Turn to Page 106)



Moderator and participants on panel covering new product selection, development and market testing methods. As signs indicate, they are Ernest J. Hart, Food Machinery & Chemical Corp., New York, moderator; Dr. Nolan B. Sommer,

American Cyanamid Co., New York, J. Kenneth Craver, Monsanto Chemical Co., St. Louis, and Dr. Harry D. Wolfe, Colgate Palmolive Co., Jersey City, N. J.

Soap Assn. Meets, Elects Wilson

THE possibility of a tightening of supplies of fats and oils in 1955 and the further expansion of sales of synthetic detergents in the household field were among the most significant predictions made at the recent soap industry meeting. Indications are that the economic outlook for this year is good, the only cloud on the horizon being the possibility of strikes, Leo Wolman, noted economist told the 28th annual meeting of the Association of American Soap & Glycerine Producers, held Jan. 26-28, at the Waldorf-Astoria Hotel, New York.

The meeting, which was the largest ever held by AASGP with close to 1000 persons attending, was highlighted by the election of officers and directors and chairmen and vice-chairmen and members of the steering committees of the four divisions of which the association is composed.

E. W. Wilson, vice-president of Armour & Co., Chicago, and a member of the board of directors of the Soap Association was chosen as president for the coming year. He succeeds Jervis J. Babb, president of Lever Brothers Co., New York, who served as president to fill the unexpired term of the late C. S. Campbell of J. B. Williams Co.,

Glastonbury, Conn., who died in September, 1954.

Two new vice-presidents were elected at the meeting. E. B. Osborn, Economics Laboratory, Inc., New York, was named vice-president for the east, and A. W. Schubert of Emery Industries, Inc., Cincinnati, was selected as vice-president for the midwest. A. K. Forthmann of Los Angeles Soap Co., Los Angeles, was reelected vice-president for the far west.

Other officers, all reelected include: Nils K. Dahl, John T. Stanley Co., New York, treasurer; M. A. McManus, Lever Brothers Co., New York, assistant treasurer, and Roy W. Peet, manager.

The board of directors is composed of the above plus: J. J. Babb; L. T. Howells, Beach Soap Co., Lawrence, Mass.; W. S. Jessop, U. S. Sanitary Specialties Co., Chicago; J. E. Kirscher, Continental Oil Co., New York; all newly elected) J. H. McConnell, Colgate-Palmolive Co., Jersey City, N. J.; Neil H. McElroy, Procter & Gamble Co., Cincinnati; E. A. Moss, Swift & Co., Chicago; C. L. Weirich, C. B. Dolge Co., Westport, Conn.; George A. Wrisley, Allen B. Wrisley Co., Chicago, and R. H. Young, Davies-Young Soap Co.,

Dayton, O., all are newly elected.

The first day of the three day meeting was given over to morning and afternoon sessions of the Fatty Acid Division. Sewall D. Andrews, Jr., general manager of the chemical division of General Mills, Inc., and chairman of the division's steering committee opened the Fatty Acid Division meeting with an address of welcome. His talk was followed by major committee reports, including those of the market development, education and publicity, and research and technical statistics committees. Prior to the division manager's report by E. Scott Pattison of the association, the following members of the steering committee were elected: Chairman, Frank C. Haas, Archer-Daniels-Midland Co., Minneapolis; K. K. Boyd, Emery Industries, Inc., Cincinnati, vice-chairman; S. D. Andrews; E. H. Bluman, Harchem Division, Wallace & Tiernan, Inc., Bellville, N. J.; J. M. Hoerner, Armour & Co., Chicago; F. E. Lacey, Swift & Co., Chicago; K. H. Reimold, Woburn Chemical Co., Kearny, N. J.; C. F. Williams, Vegetable Oil Products Co., Los Angeles.

The concluding feature of the morning meeting of the Fatty Acid Division was an address on



Dr. H. C. Black, center, of Swift & Co., Chicago, who presented glycerine awards to first prize winners, R. K. Sommerbell, Northwestern University, Evanston, Ill., left, and James A. Stephens, American Cyanamid Co., Stamford, Conn.

"Increasing Profits Through Cost Accounting" by Winfield I. McNeill, New York consultant.

Mr. McNeill explained that cost accounting can tell how much money is being made or lost and where it is being made or lost. He further stated that profits can be increased materially by measuring actual factory costs in materials, labor and expense against standards for the conditions under which the factory had to operate. The third point he made was that there should be a balance of total fat in-put against total fat output by operations for cost and control purposes. In addition, the determination of whether an item is a co-product or a by-product depends on price and the ability to sell all that one can produce at a profit.

"Cost accounting," Mr. McNeill concluded, "should be viewed as an investment; spend a dollar to save more."

Sees Oils Short

APREDICTION that there might be a possibility of a "scarcity" of fats and oils in 1955 was made by Dr. Tom E. Doak of Longstreet, Abbott and Co., St. Louis, principal speaker at the first day's luncheon.

"1955 is a year of change in the outlook for fats and oils in this country and throughout the world—the year when the balance of supply and demand for fats and oils swings from surplus back to equilibrium, or perhaps even over to the side of scarcity," Dr. Doak declared. "This is a big change from 18 months ago when tallow was selling at less than half today's prices and the Commodity Credit Corporation was assuming title to one-half the U. S. cottonseed oil crop under price support operations," Dr. Doak continued.

Tallow stocks are at their lowest point in the last three years, Dr. Doak stated. He added that fatty acid producers should look closely at the world fat and oil situation, which is in a state of change. World fat and oil consumption is now high and growing faster even than the increase in the world's population. The rising tides of nationalism in Russia, India, China and many other countries find governments striving to improve the fat diets of their peoples to promote internal political harmony. The growing industrialization of these same countries means increasing demands for industrial fats—and the rising incomes and standards of living in Europe's booming econo-

mies undoubtedly mean higher consumption of soaps and synthetic detergents.

Supplies, on the other hand, for the crop year Oct.-Sept., 1954-55, will be lower due to reduced output and lower stocks. The olive oil crop is down by 40 percent and many other fats and oils crops are a little smaller because of poor European and South American growing weather. Even more important is the fact that a year ago the world was drawing against governmental stock — European stocks built up for strategic reasons back in 1950-51 and Commodity Credit Corporation stocks of linseed oil and cottonseed oil accumulated in the U. S. as a result of price support operations. Now Great Britain and other European countries have liquidated their stocks and the end is in sight for CCC oils in the U. S.

While commercial stocks in Europe may have been built up somewhat because of reviving optimism, it does not seem at all probable that the build up commercially has matched governmental liquidation.

While stocks of tallow in the U. S. have dwindled to the lowest level in the past three and one-half years, exports have continued to grow and a new, large scale user—the livestock feed industry—has entered the tallow consumer picture. The feed demand may already be absorbing 10 percent of tallow production and the potential is clearly at 50 percent of production, price permitting. The feed mixer seems to think he can pay about three times the price of corn (roughly nine cents a pound for tallow) before cost becomes a controlling factor.

Feed demand is also dipping into another historic source of raw materials for the fatty acids industry. Processors have been converting from expeller oil mills to the more efficient solvent process in recovering valuable oil from the cheaper meal. The side-effects, however, were serious and these operators found themselves with a dusty, unpalatable meal product that sold

at a discount from expeller process meal and, when demand was dull, was difficult to move at all. Their solution to the problem was to extract all the oil, and then restore the fat content of the meal by blending acidulated foots back into the meal, which they sell as "expeller process." This is a growing use of a waste product—a use that can probably outbid the price a fatty acids processor has been accustomed to paying.

With this type of competition it is fortunate that synthetic detergents are spreading in Europe as well as in the U. S., according to Dr. Doak. Bigger world production of fats and oils next year could also help in keeping prices from getting too far out of line. It is also fortunate that the fatty acids processor himself is also discovering new raw materials. Specifically, the increasing acceptance of tall oil with its potential expansion, may mean another major new raw material.

In a panel on fatty acid application trends, Malcolm F. Graham of Colgate-Palmolive Co., Jersey City, N. J., the first speaker, discussed the "Use of Fatty Acids in Toiletries." Mr. Graham recalled that an earlier speaker at a soap industry meeting had urged the fatty acid producers to better acquaint themselves with the people of the toilet goods industry in order to effect a better understanding of each other's problems. Mr. Graham also reaffirmed that the need for constancy of composition and quality of raw materials is still uppermost in the requirements of a toilet goods manufacturer. The criteria a toilet goods manufacturer has in marketing a product include: utility, physical attractiveness and stability, Mr. Graham pointed out.

The properties the toiletries producer wants in his three principal fatty acids: coconut oil fatty acids, oleic acid and stearic acid, were also outlined by Mr. Graham. He reviewed the Toilet Goods Association's specifications for these three fatty acids and discussed two other characteristics missing from these specifications. These include

the physical form of stearic acid and the requirement of freedom from foreign matter. Fatty acid derivatives including fatty alcohols, fatty acid esters, sorbitol derivatives and alcohol derivatives were also briefly mentioned by Mr. Graham. He concluded by pointing out that: ". . . In the preparation of these more or less complex chemicals from fatty acids, experience will show that you can obtain a more uniform chemical if you start with a fatty acid of the highest possible purity. The fatty acid industry has made many strides in this direction. For example, . . . it was not many years ago that the best grade of lauric acid commercially available was only 85 percent pure. Today, there are several producers of lauric acid which is 95 percent pure. As with other raw materials, uniformity in composition and quality of fatty acid derivatives is and will continue to be important to the toiletries producer."

Glycerine Awards

THE 1954 glycerine research awards were presented at luncheon on Jan. 27 by H. C. Black, associate director of research, Swift & Co., Chicago. Shared by eight scientists this year, the award is made by the association annually in recognition of new and independent research contributing to the knowledge

and use of glycerine. First award of an honor plaque and \$1000 went to Robert K. Summerbell, Northwestern University, Evanston, Ill., and James A. Stephens, American Cyanamid Co., Stamford, Conn., for their proof of the structure and configuration of a number of well known glycerine derivatives and of some new related compounds.

Two teams of research chemists shared the second award of honor certificate and \$300 for establishing independently the biological asymmetry of glycerine, i.e. the manner in which certain enzymes act preferentially upon one of the apparently identical end carbon atoms in the glycerine molecule. Robert W. Swick and Akira Nakao formed one team working at the Argonne National Laboratory, Lemont, Ill., and Harland G. Wood and Per Schamby of Western Reserve University, Cleveland and G. Popjak of the National Institute for Medical Research, Mill Hill, London, England, formed the other.

The award of an honor certificate and \$200 was won by Henry A. Sloviter, School of Medicine, University of Pennsylvania, Philadelphia. He developed a new simple method of transfusing thawed red blood cell/glycerine mixtures directly into the veins. Dr. Sloviter's work may make it practical to store and stockpile erythrocytes at low

James R. Macon, left, Atlantic Refining Co., Philadelphia, and Harold E. Bramston-Cook, Oronite Chemical Co., New York, participants in the panel discussion on synthetic detergents.





Miss De Lois Faulkner, 1955 Maid of Cotton, with Roy W. Peet, manager of the Association of American Soap & Glycerine Producers, Inc.

temperatures over extended periods for use in case of national emergencies.

Presentation of the awards was followed by an address on "Health and Sanitation Experiences in Foreign Lands" by Kaarlo W. Nasi, sanitary engineer director, U. S. Public Health Service. After defining the technical cooperation program as operated through the Foreign Operations Administration, the speaker described malaria control in Thailand and improvement of the water supply in the Philippines as examples of work done under the program. He stressed how the United States, by serving the underdeveloped nations, serves its own enlightened self interest by improving sources of vital raw materials and creating new markets for our manufactured goods.

The afternoon session of the glycerine division was presided over by F. E. Lacy, division chairman, and manager of the industrial oils department of Swift & Co., Chicago.

John D. Hind of Miner Laboratories, Chicago, presented the first paper dealing with "Research on Alkyd Resins from Glycerine." After defining an alkyd resin, the speaker stressed the importance of the alkyd market to the glycerine producer: approximately one third of all glycerine produced in the United States goes into alkyds and paint products. Object of the work

reported is honest and objective evaluation of glycerine among other polyols recommended for the manufacture of alkyds and, more indirectly, promotion of alkyds in competition with other resins.

"Glycerine Promotional Plans" were outlined in a talk by H. H. Besuden, Procter & Gamble Co., Cincinnati. Mr. Besuden stressed that glycerine advertising had really to start from the bottom after the war and post war allocation system was abolished. Much ground has been reclaimed from substitutes which had invaded the market during the period of shortage. His remarks were followed by a report on the 1954 advertising campaign and on plans for 1955 given by Fred Messner of G. M. Basford Co., New York. Mr. Messner said that the 1954 campaign had been chiefly concerned with the well established application of glycerine by various well-known industrial consumers. He illustrated his remarks by showing posters. 1955's motto will be "Things to Come with Glycerine." The pace and impact of advertising must never slacken because the estimated change of personnel in industry runs as high as 48 percent.

Norman O'Dell, publicity department of Basford, spoke on the role of *Glycerine Facts*, feature articles, new releases, pictures and captions and other means of publicity.

"Cell Preservation by Freezing in Glycerine" was reviewed by John J. Craig, editor of *Glycerine Facts*, G. M. Basford Co. Types of matter preserved in this manner are spermatozoa, red blood cells, and various tissues. Commercial significance of the preservation of bull semen was discussed. A new technique of preserving human sperm cells is of clinical value to medical men concerned with problems of sterility and of general importance in the research on the mechanism by which glycerine prevents cellular damage during freezing.

Summarizing the blood storage prospect Mr. Craig said that it may become possible to store red blood cells for a year or more and that the temperature will be in the range of -45°C to -79°C and the glycerine concentration possibly 30 percent.

Among tissues that have been successfully preserved are human cornea and human skin. The latter may provide dressings in cases of extensive burns.

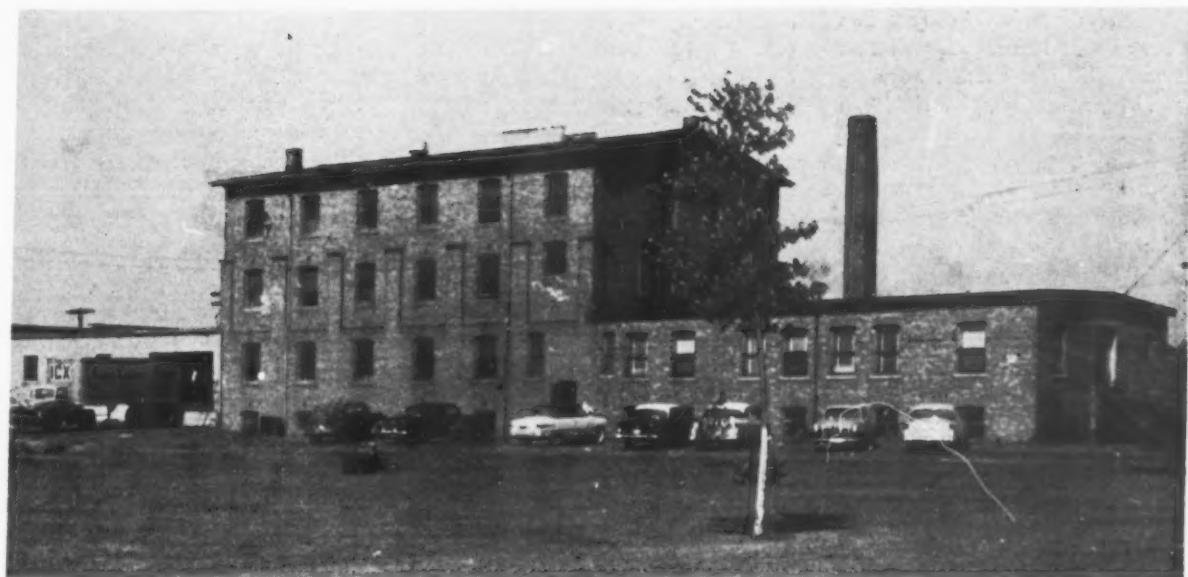
No conclusive knowledge is as yet available on the mechanism by which glycerine exerts its cell protecting action and no other polyol has so far been found to give equal results.

Mr. Craig's paper was followed by a presentation by R. O. Feuge, Southern Regional Research Laboratory, New Orleans, La., on "Acetoglycerides and Their Application." The speaker divided acetoglycerides into high-melting aceto-stearins, low-melting aceto-stearins, and aceto-oleins. Potential uses of these compounds as plasticizers for resins and in the food field were described in detail.

Glycerine Outlook

THE session was concluded by E. Scott Pattison, manager of the glycerine division, who spoke on "Changing Times for Glycerine." The change according to Mr. Pattison consists in glycerine's transformation from a 100 percent by-product commodity to a combination commodity: about 30 percent syn-

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Side view of new Haag plant and laboratories at Blue Island, Ill.

From antifreeze to potash soaps—the story of

Haag Laboratories, Inc.

IT is 25 years since Vernon W. Haag changed the name of his potash soap and sanitary chemical business to Haag Laboratories, Inc. In the quarter of a century which has elapsed since Mr. Haag made the decision regarding the change in name of his company, many other changes, — some of considerably more significance, have been undertaken. Probably this willingness to institute changes, when needed, is one of the more important reasons why the 33-year-old company has been so successful. Weathering a major depression, a cata-

strophic world war, followed shortly by a minor, extremely painful "police action", spelled w-a-r, and coming out at or near the top of the heap was no mean feat. It required intelligent flexibility and the Haag team had it.

Haag Laboratories, Inc., since 1945 has been located in Blue Island, Illinois, a suburb of Chicago. The firm is a manufacturing corporation, specializing in liquid soaps, liquid cleansers, jelly soaps, floor waxes and kindred products. Many other products had been manufactured in the past but most of these have been

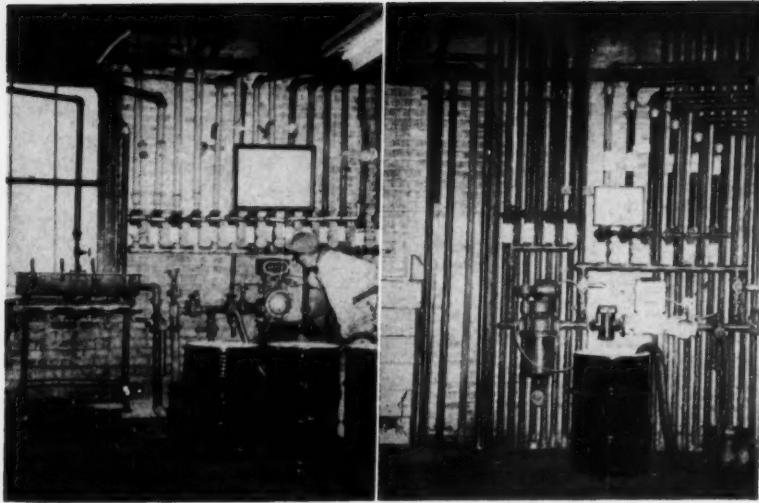
dropped to insure more efficient laboratory control and research on a specialized group. Haag Laboratories thinks of itself as unique in that it is one of the very few potash soap manufacturers selling to distributors only. For the first eight years of its corporate existence, Haag Laboratories sold direct to consumers; hospitals and institutions were the main accounts. However, in the fateful (for Haag) year of 1938, since it marked a turning point in the progress of the company, the firm made a major decision. It adopted the policy of sell-

Front entrance to offices at new Haag plant.



Burying underground oil storage tanks at Haag plant.





Left: Pipe lines from soap storage tanks to meter through which finished soap products are filled.

Right: Pipe lines from wax storage tanks to meters through which the wax is filled into containers.

ing jobbers and distributors only.

Two other events of importance to Haag Laboratories took place that year, one of which led directly to the adoption of the new sales policy. In 1938, V. Wilbert Haag, son of the president of the firm, was graduated as a chemical engineer from the University of Illinois and joined Haag Laboratories. Wilbert Haag, with his engineering background and knowledge of mechanical and electrical problems, was prepared for the duties of production manager which he assumed. Eventually, he became vice-president in charge of production, which is his present title.

The other development that took place in 1938 at Haag Labora-

tories, and which had marked repercussions, was the resignations of the firm's sales manager and production man. They joined to form their own company in direct competition with Haag.

Haag Laboratories was originally founded in 1922 as a partnership between V. W. Haag and H. E. Bigler, also a University of Illinois graduate. Manufacturing operations were carried on in a garage and home basement with only a few hundred dollars capital. The first office was at 1912 S. Prairie Ave., Chicago. Products sold in the very early days of the company included disinfectants, polishes and anti-freeze.

Two years later (1924) the

firm became incorporated as Haag-Bigler Chemical Co. Incorporators were V. W. Haag, his brother, I. L. Haag, and H. E. Bigler. The factory was moved to 5019 S. State St., Chicago, in 1914. I. L. Haag, a graduate of the University of Illinois, later left Haag and is now with E. I. du Pont de Nemours & Co., Wilmington, Del.

In 1929, H. E. Bigler sold all of his stock to V. W. Haag, who changed the name of the company to Haag Laboratories in the following year.

A silver and metal polishing cloth, now known as "Victory-Miracle," was developed in 1940, and has since been a big seller.

The war years of 1941-45 saw a tremendous growth in sales to distributors. During this period, too, sales of shampoo in bulk to firms marketing these products rose sharply.

1945 Haag describes as a "momentous year." Reasons for this include the moving of the business to its present site in Blue Island, and the return of Mr. Haag's other son, Ralph, from service to rejoin the firm in a sales capacity. Ralph had served with the U.S. Navy as a lieutenant. Rejoining Haag Laboratories in 1945 in a sales capacity, he eventually became vice-president in charge of sales.

The Haag plant at Blue Island is strategically located. The buildings were ideally built for the stress and strain of a modern soap manufacturing plant. In addition,

V. Wilbert Haag



Ralph F. Haag



Miss M. E. Sharpe



the site in Blue Island provides room for expansion as well as modern railroad siding facilities.

The plant consists of a four-story brick building, where manufacturing operations are carried on; an adjoining brick building, which houses office and laboratory; and a brick warehouse. These structures are located on a three-acre tract on the Indiana Harbor Belt Railroad. The buildings are owned by V. W. Haag, and are leased to the corporation.

Expansion has been the keynote of the early 1950's. In 1951 Haag Laboratories added a brick building to their facilities for storage. From 1951 to 1955 new equipment has been installed in the plant; older equipment has been shifted and modernized to further improve liquid and jelly soaps and wax manufacturing operations.

The plant as a working unit is the result of the evolution in processing ideas that had their beginnings in the firm's previous factory building. The evolution or changes which took place were required by increased handling of materials that accompanied a sharp expansion in production. The four story factory building in Blue Island is a typical chemical plant for the handling of liquids. Because of its four levels, the plant has been designed to employ gravity to move liquids. The plant is designed specifically for the manufacture of soft soap. Bulk handling of materials

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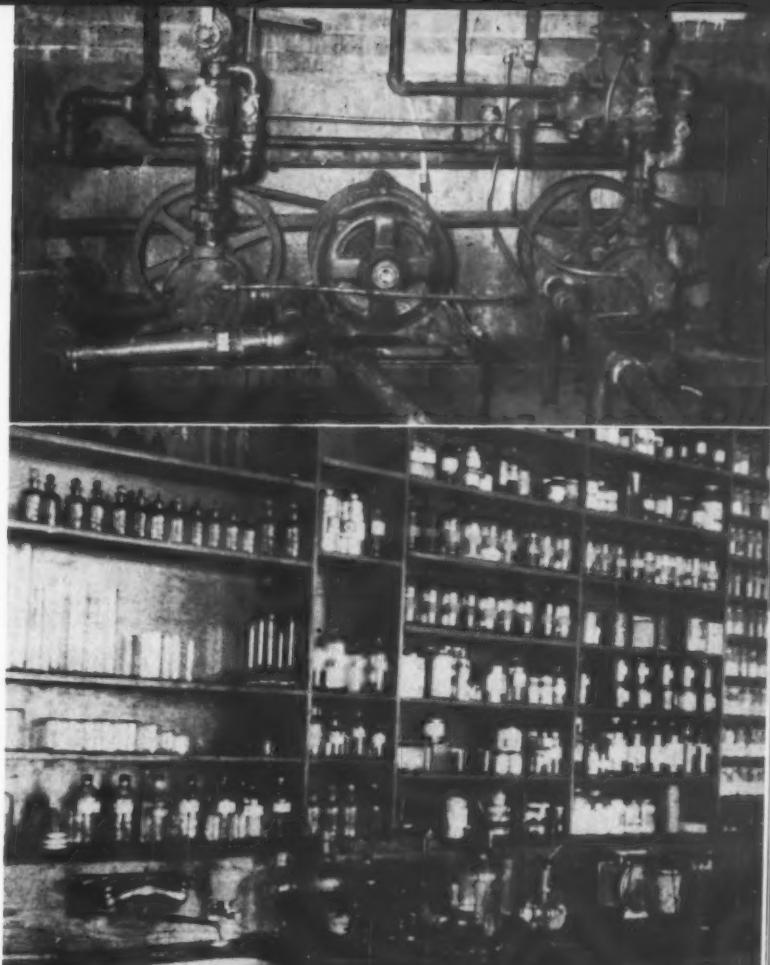
Vernon W. Haag



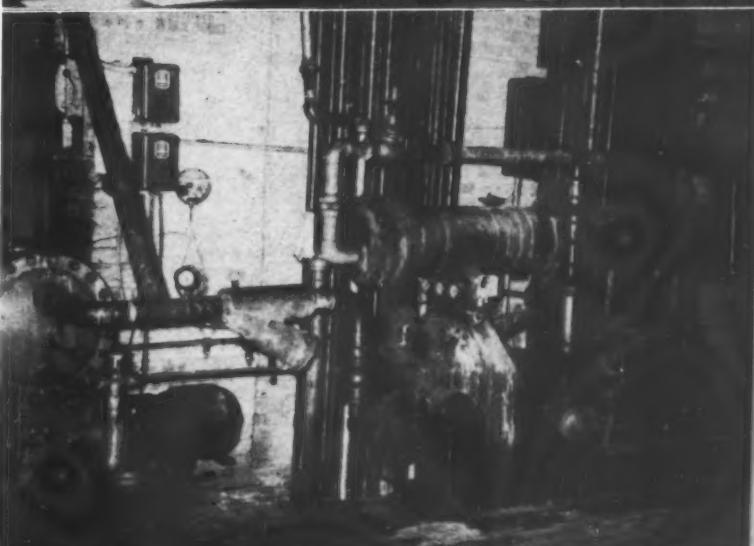
Container warehouse.

Oil pumps which pump from underground storage tanks to soap kettles.

Laboratory



Twenty-five ton refrigeration unit used to chill liquid soaps before filtering.



MECHANICAL DISHWASHING DETERGENTS

By Kurt Albrecht*

Calgon, Inc.

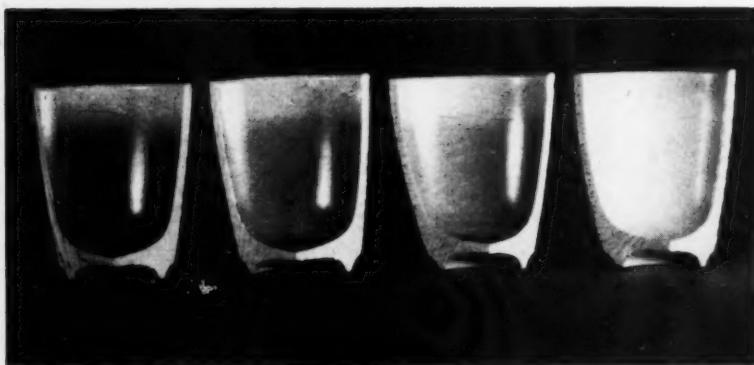
PART II

AFTER a considerable amount of field work it was determined that a composition with a high ratio of chlorinated trisodium phosphate to 30 parts sodium tripolyphosphate seemed to be optimum for commercial practice. The ratio was determined by a careful examination of two principal factors, water hardness and soil load. In the few cases in which the product has seemingly failed to perform, detersitywise, the trouble has almost always been traced to failure to maintain a chlorine residual of 10 ppm or over for a reasonable percentage of the time. Usually this is not too hard to correct, good preflushing and a suitable amount of fresh makeup water to wash tank are all that is necessary. Intermittent operation or wash tanks of

large capacity do tend to make some operations uneconomical. A good rinse is necessary or darkening or spotting of silver will occur. Dezinification of copper-zinc alloy machine parts is a problem if the water supply is very soft; if the water supply is only moderately hard no more trouble is to be expected than with the older polyphosphate-silicate mixtures, and not as much as from those containing caustic soda. Worn silverplate, when the plate is on a copper bearing white metal base such as German silver, can exhibit the extremely annoying property of the exposed base metal turning to a brassy gold color. In very soft water the effect of copper deposition on the silver surfaces has been noted. This fault and its probable mechanism has been described by Bacon and Nutting (7) and is not surpris-

*Paper presented at 41st annual meeting, Chemical Specialties Mfgrs. Assn., New York, Dec. 9, 1954.

FIGURE IV



ing in view of the chemical makeup of the compound. The incidence of this form of trouble has been low, percentage-wise, less than five percent noted at all and perhaps about one percent at a level that caused a serious complaint.

Special mention should be made of the use of the product for mechanically washing melamine plastic. "Melmac" ware is subject to all of the difficulties encountered in washing china, including filming and staining. Unfortunately "Melmac" cannot be subjected to the drastic clean-up procedures that are used on china. Strong hypochlorite dips or abrasive scouring compounds cause substantial damage to the softer melamine surface. Film and food deposits can be controlled by a good non-chlorinated detergent coupled with a good machine and operating procedure but stains, such as those caused by coffee, cannot. Regular dipping in a hot solution of a perborate peroxide mixture as shown by Lanners and Dewey (8) is the only completely safe method of manually removing these stains. It is interesting to note that this same paper showed that, of the chlorinated products tested, the formulation dealt with here proved to be the safest of the effective ones when used as a dip. However the concentrations permissible and the critical exposure limitations contra-indicate a general recommendation for any chlorinated product as a dip. However, in a mechanical dishwasher both exposure time and concentration are readily controllable within safe practical limits. A comparison of the chlorinated mixture with two perborate mixtures and a non-oxidizing product is shown in Figure IV — this shows the relative amounts of stain removal by four products in a laboratory dishwasher.

Product 4 is a proprietary chlorinated compound containing approximately 2.5 percent available chlorine or 0.6 percent available oxygen equivalent.* Products 2 and 3 are polyphosphate - metasilicate-

*Commercially available as "Aura," a product of Calgon, Inc. Patented and patent applied for.

perborate mixtures, each containing 1.5 percent available oxygen. Product 1, a proprietary product, consists essentially of a mixture of alkaline silicate with polyphosphate. All of the test pieces were cut from a cup that had been stained by normal home service over a period of time; it had never been scoured or bleached prior to this test.

After 10 five-minute cycles the section of the cup washed with the chlorinated product is virtually free of stain while the performance of other products is far less effective. There was practically no stain removal by D, the non-oxidizing product. In terms of practical commercial results we find that the rate of stain removal of the chlorinated product is sufficiently high to keep ahead of most of the staining that might occur. A 90 percent reduction in the incidence of staining is typical of what may be expected. The actual percentage of stained ware that requires auxiliary treatment is dependent on several factors, primarily soil load (main-

tenance of available chlorine in the wash water) and secondarily upon such factors as wash water temperature, washing time, and mechanical efficiency of the equipment used. Thus, through the use of the chlorinated detergent, an operation that normally dips about 50 percent of the ware daily can generally reduce staining to five percent, while in an efficient operation that has a dip rate of five to 10 percent daily staining can be expected to become negligible. The greatest benefits appear to be savings in labor and consistently good appearance of the ware. Economy also results from a savings in the chemical cost of dipping and prolonged life of the ware. Even if a relatively dangerous dip is employed, the useful life of the ware is prolonged manyfold because fewer dippings are required.

Now to get back to the household use of the polyphosphate, chlorinated trisodium phosphate mixture. Here best practice dictates a somewhat lower hypochlorite con-

[†]Commercially available as "Thank," a product of Calgon, Inc. Patented and patent applied for.

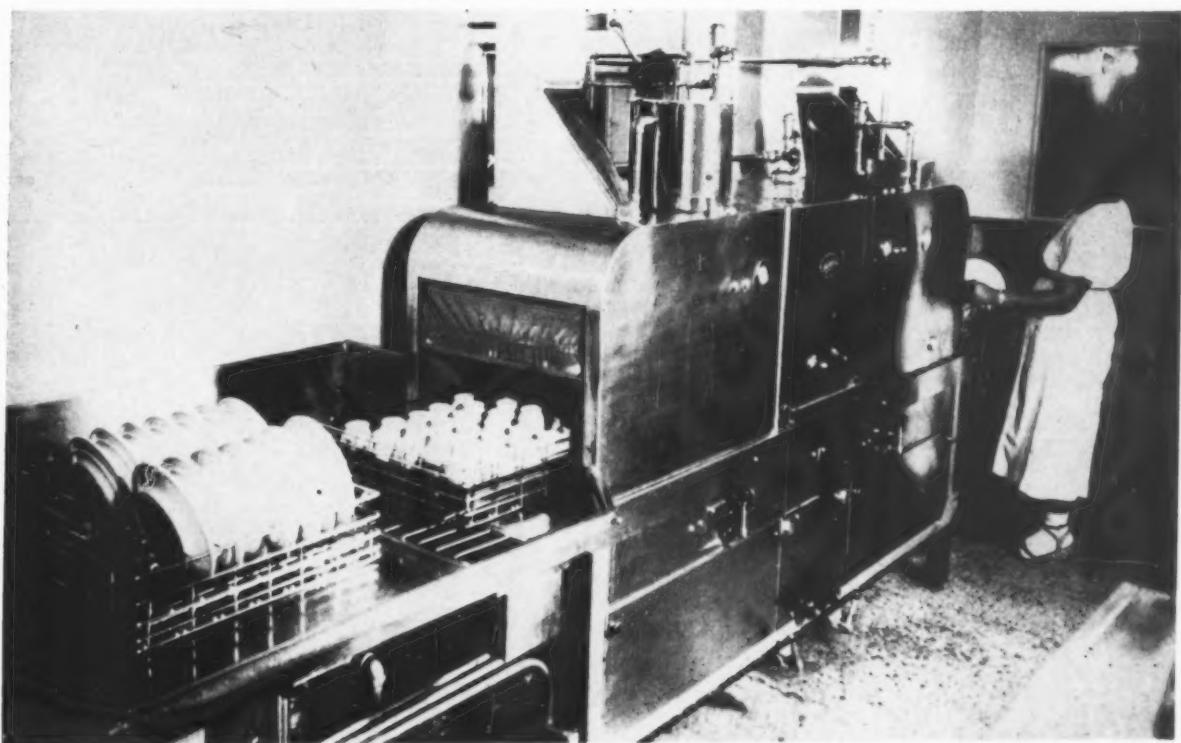
tent and a higher polyphosphate level than is desirable commercially.[†]

The major appeal of the product in the home dishwasher is its superior detergency and the elimination of spotty glassware. In addition to washing glassware that really sparkles when dry, stainless steel articles, plastic ware and other surfaces previously difficult to wash adequately can now be efficiently handled in the home dishwasher.

The advantages of the chlorinated mixtures in the home dishwasher seem to outweigh their shortcomings, of which technical men that have worked with them are very much aware. Some of the adverse properties may be immediately discernible to the user. Number one is odor. A substantial number of consumers object to the odor of hypochlorite. Some progress is being made toward developing suitable masking. Progress has been slow because of instability of most perfume oils in the presence of hypochlorite and the fact that any perfume strong enough to mask hypo-

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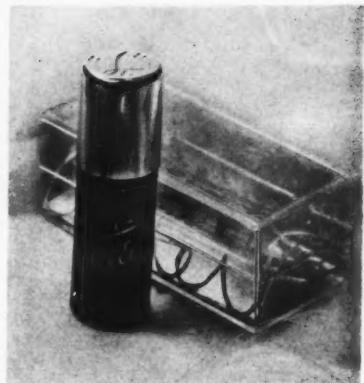
A large dishwashing machine in Michael Reese Hospital, Chicago





New and improved "Taniwha" soap powder of Union Oil, Soap and Candle Co., Ltd., Auckland, New Zealand. Back panel of the red, yellow, white and blue carton, features paper doll cut outs. Product, which comes in three pound package, also features "Soiltex", new optical bleach.

What's



Recently introduced "Dew-Dab" purse size, meter controlled, aerosol perfume atomizer of Lentheric, New York. The black and gold unit is $2\frac{1}{4}$ inches high. Highly polished gold cap tops a base of black, flecked with gold. "Dew-Dab" is packaged in re-usable clear plastic case. Available in four fragrances: "Tweed", "Miracle", "Adam's Rib" or "Dark Brilliance". First two retail for \$4.00; latter are \$5.00 each. Tax is extra.



45

New "Kangaroo" pouch sponge of Kangaroo Products, Inc., Allendale, N. J., features detergent blocks in sponge. Product is available for general household cleaning of wood, metal and plastic surfaces, as well as for car washing. Two solid detergent wax sticks are inserted in sponge, which is wetted and ready for use. Household and car kit each retail for \$1.00, which includes sponge and eight detergent blocks. Twenty refills retail for \$1.00. Kangaroo makes the blocks of detergent supplied by Atlantic Refining Co., Philadelphia.

New?

A new, all-purpose, antiseptic hand cleaner for loosening and removing all types of ground-in grime, grease, inks, tars or paints, was introduced recently by Producers Products Co., Borger, Tex. Designated "Hex", the new cleaner contains hexachlorophene as the germicidal agent. The formula also includes lanolin. "Hex" is packed in 14 ounce jars, and 25-ounce, three pound and five pound tins. A dispenser is available for the five pound size. Jobber inquiries are invited.



A first in the packaging of household ammonia is the use of a metal can made by American Can Co., New York. Sunlight Chemical Corp., Phillipsdale, R. I., is using Canco's tinless, non-drip "metal bottles" for distribution of its "Sunlight Brand Super Ammonia" in the east. The 22-ounce tinless can with screw top plastic cap and aluminum nozzle is similar to non-drip can developed by Canco for "Lux" and "White King" liquid synthetic detergents.

Consumer convenience in handling is the principal feature of newly redesigned quart bottle (right) for "Hi-lex" liquid bleach, disinfectant and deodorant recently adopted by Hilex Co., St. Paul, Minn. New package is slimmer and somewhat taller, making it easier for the housewife to grip. Lithographed red and yellow closure has large price marking space for convenience of retailer. Stippled surface also helps to prevent slipping when hands are wet. "Hi-lex" liquid bleach is also packaged in half-gallon and gallon amber bottles. Bottles and metal closures are manufactured by Owens-Illinois Glass Co., Toledo. Paper labels are supplied by H. M. Smyth Printing Co., St. Paul.



If your product can be sprayed...

CONTINENTAL HAS AN AEROSOL CAN TAILOR-MADE FOR YOU



DOME TOP — Domes attached and equipped with standard 1" curled opening for all popular valves. Regular (12 oz.) or Midget (6 oz.).



CONCAVE TOP — Tops furnished loose and perforated with hole-punch for specified aerosol valves. Regular (12 oz.).



DOME TOP — Domes furnished loose and perforated with hole-punch for specified aerosol valves. Regular (12 oz.) or Midget (6 oz.).

More than 60 sprayable non-food products are now sold in Continental's three styles of aerosol cans. One of these containers will fit the exact needs of your product too. As part of Continental's Tailor-Made Package Service, we provide on-the-dot deliveries of all the cans you can use. Individualized engineering and master lithography are available...and so are contacts with valve suppliers and commercial fillers. It'll be a pleasure to advise you in any phase of your packaging operations. Why not call Continental at your convenience?

CONTINENTAL  CAN COMPANY

Eastern Div.: 100 E. 42nd St., New York 17
Central Div.: 135 So. La Salle St., Chicago 3
Pacific Div.: Russ Building, San Francisco 4



Packaging NOTES

Bakelite Packaging Booklet

The issuance of a new eight-page booklet, "1955 Guide to Improved Packaging with Bakelite Plastics and Resins" was announced recently by Bakelite Co., a division of Union Carbide and Carbon Corp., New York. Information on the following types of resins and plastics is covered in the booklet: "Bakelite," polyethylene, phenolic, styrene, C-11 and vinyl plastics and resins. Copies may be obtained from Bakelite at 300 Madison Ave., New York 17, N. Y.

Folding Carton Manual

A revised edition of its industrial manual, "The Folding Carton," was announced recently by the Folding Paper Box Association of America, Chicago. The newest version of the booklet, which was originally issued in 1950, has been revised and brought up to date. It consists of 56 pages devoted to the history and manufacturing of the folding paper carton. Profusely illustrated, the booklet provides the reader with a detailed review of the industry and takes him through the complete boxmaking operation. Starting with the characteristics and function of the folding carton, the booklet traces the history and development of the industry and its economic status; continues on with folding carton design, the manufacture of paper board, actual carton manufacture; and ends with a discussion of packaging machinery and a bibliography. Copies are available to non-members of the Folding Paper Box Association, 337 W. Madison St., Chicago 6, at \$1.25 per copy.

New Polyethylene Bottles

The availability of polyethylene bottles and storage jars, featuring heavy-wall, all-welded construction, and designed for handling acids and other corrosive liquids, was announced recently by American Agile



Revised edition of the industrial manual, "The Folding Carton," issued recently by Folding Paper Box Association, Chicago.

Corp., P. O. Box 168, Bedford, O. These bottles are especially important for applications where the elimination of permeability in handling inorganic chemicals is a factor. The problem is said to be minimized with the use of these polyethylene bottles and storage jars.

Both bottles and jars are fabricated from molded and cast sections and are welded by the hot

Polyethylene bottles and storage jars for handling acids and other corrosive liquids announced recently by American Agile Corp., Bedford, O.



gas welding process. They are of rigid construction and are leak-proof, light weight and resistant to impact and corrosive chemicals. Bottles are provided with tight-closing screw caps. Jars have a tight friction fitting, easily-removable lid and are designed for storing and transporting liquid and solid corrosive substances that are moisture sensitive or otherwise easily contaminated. Standard sizes are available ranging in capacities from one quart to five gallons. Special sizes may be ordered.

Colorful Lysol Drums

Consumer packaging techniques including bright colors and smart, descriptive labeling for added information have been adopted for the bulk packaging of its "Lysol" disinfectant Lehn & Wink Products Corp., New York, announced recently. New, colorfully lacquered 50-gallon "Lysol" drums with dilution instructions on top and side, designed for easier identification in handling and attractiveness in storage, are now being used to ship the disinfectant both in the U. S. and abroad. A red and yellow color combination has been chosen for Lysol drums to make them more visible in storage. In addition, dilution directions are visible no matter in what position the drum is placed,

(Continued on Page 51)



Can we spray an idea your way? Package for aerosol dispensing . . . and do it in glass like our sales-minded client, Bourjois, does. In this suave push-button bottle lies the essence of sound merchandising. Push-button containers invite immediate attention and examination . . . give both men and women shoppers cleanliness, protection, economy. Glass aerosols assure universal sales appeal for personal products like perfumes, sun tan oil, hair dressings, deodorants, etc. . . . through high content visibility, color display, and an unlimited range of inexpensive bottle shapes and sizes for flexible, competitive pricing. Capitalize on the trend to glass aerosols now. Boost profits. Contact us for a free product evaluation.

MAIN OFFICE • 123 NORTH HAZEL STREET, DANVILLE, ILLINOIS

CONTINENTAL FILLING CORPORATION

PLANTS • DANVILLE, ILLINOIS — HOBART, INDIANA

Perfume: Bourjois
 Bottle: Maryland Glass
 Valve and gold cap: Risdon
 Gold foil label: Foxon
 Filled by CONTINENTAL

COMPLETE FILLING SERVICE.
 Get Continental's famous "follow-through" on liquid, spray and foam packaging . . . in glass or cans. Two modern Midwest plants give you on-time delivery and freight savings plus warehousing and drop-shipping in bulk lots. We handle paper work, and protect your product with lab analysis before . . . quality control during . . . and careful handling after production.

CONTRACT AND CUSTOM FILLING



LIQUID

SPRAY

FOAM

SOAP and CHEMICAL SPECIALTIES



SPRA-TAINER® Does It Again!

*Wins
7-of-11
Awards*

**IN NEW C.S.M.A.
AEROSOL PACKAGING
CONTEST**

Again in 1954 Crown SPRA-TAINER, famous for *Modern Design That Sells*, walked away from all competition when the Chemical Specialties Mfrs. Assn. chose the year's best pressure packages. Crown customers won the Grand Award and 6 "firsts" in the 10 product classifications! Obviously Crown's package-design know-how, covering a *complete* line of cans for today's industry, helps products *look* better and *sell* better. Couldn't you use that knowledge?



FIRST PRIZE - Shave Products
Yardley of London, Inc.
New York City



FIRST PRIZE - Insecticides
Canada Rex Spray Co., Ltd.
Brighton, Ontario



FIRST PRIZE
Miscellaneous Personal Products
Walgreen Drug Stores
Chicago, Ill.



FIRST PRIZE - Artificial Snow
Plasti-Kote, Inc.
Cleveland, Ohio



FIRST PRIZE - Industrial Products
Mitchell Chemical Co.
Stratford, Conn.



GRAND AWARD
Best of All Entries
And
FIRST PRIZE
Hair Preparations
General Beauty Products, Inc.
New York City

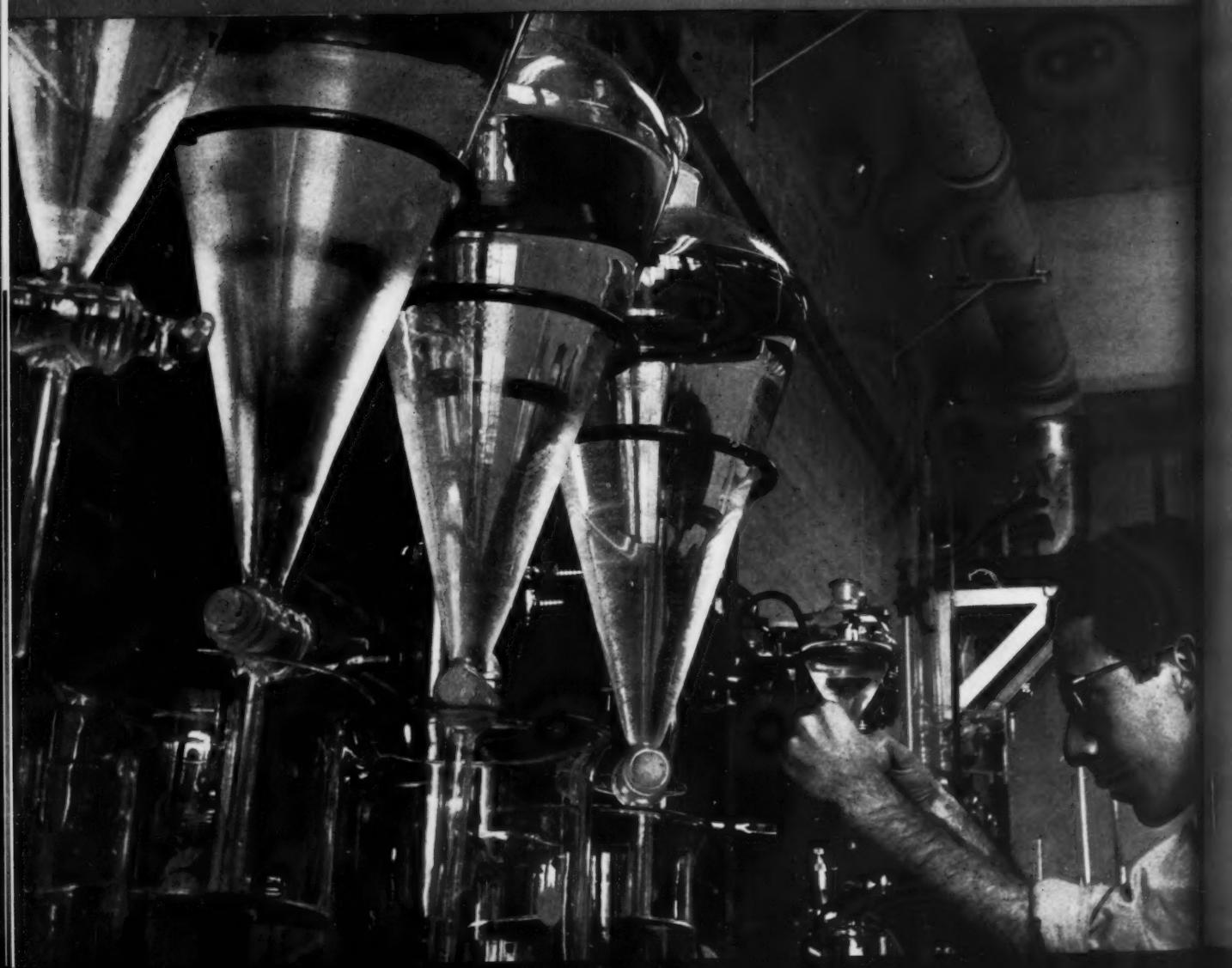


**CROWN CORK & SEAL COMPANY, INC.
CAN DIVISION**

One of America's Largest Can Manufacturers

PHILADELPHIA • CHICAGO • ORLANDO • BALTIMORE • NEW YORK • BOSTON • ST. LOUIS • SAN FRANCISCO

because of  Swanson's





CONTINUOUS RESEARCH...

new and finer materials are
constantly being made available to broaden the
scope of your abilities as a creative
perfumer and to advance the quality and
variety of your fragrances.



"Yours For Quality
In All Things Fragrant"



*Givaudan-Delawanna,
Inc.*

330 West 42nd Street, New York 36, N. Y.

Branches: Philadelphia • Boston • Cincinnati • Chicago • Seattle • Los Angeles • Toronto

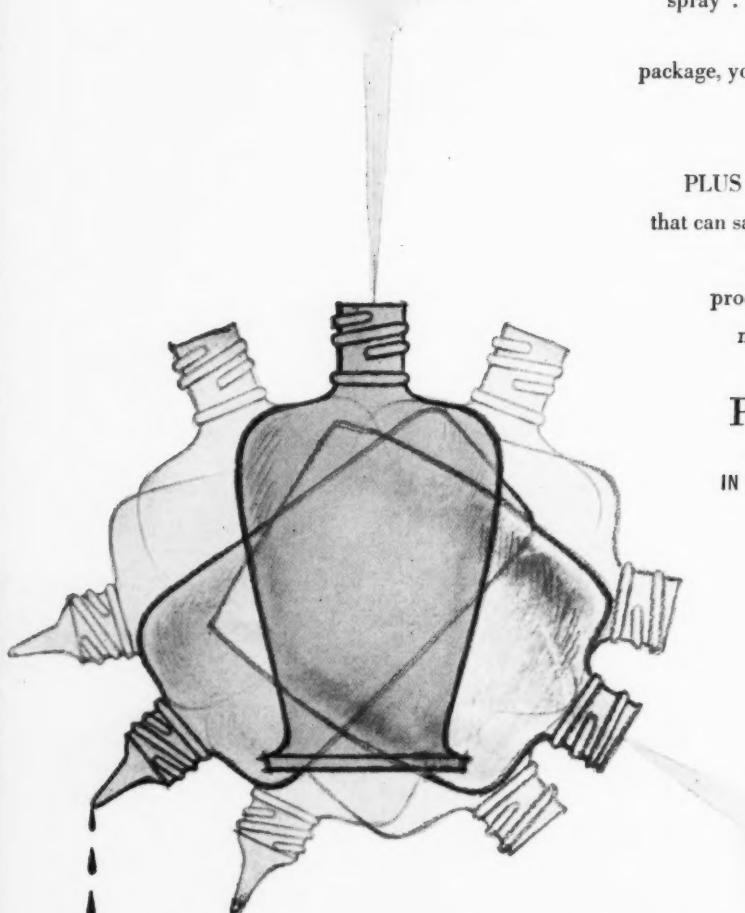
There's a **PLAX** Package with the ideal **DISPENSING** method for your product

You specify the action . . . fine, medium or coarse . . . spray . . . drop-by-drop . . . pressure or controlled pouring . . . direct application. In a Plax package, your product is dispensed exactly as it should be for maximum use convenience. More than 50 stock fittings to choose from.

PLUS rainbow colors . . . lighter shipping weights that can save you hundreds of thousands of dollars . . . and the custom or stock shape that gives your product stand-out eye appeal. For packaging that makes your product easier to use, consult Plax.

PLAX CORPORATION

P. O. Box 1019, HARTFORD, CONNECTICUT
IN CANADA: Plax Canada, Ltd., Montreal and Toronto



In plastic bottle packaging, only Plax offers continuous research, complete design service, and long experience.

PLAX

Packaging Notes

(From Page 49)

upright or horizontal. The lacquer finish of the lithographed drums keeps them clean and neat.

— ★ —

P & Q Silicate Adhesive

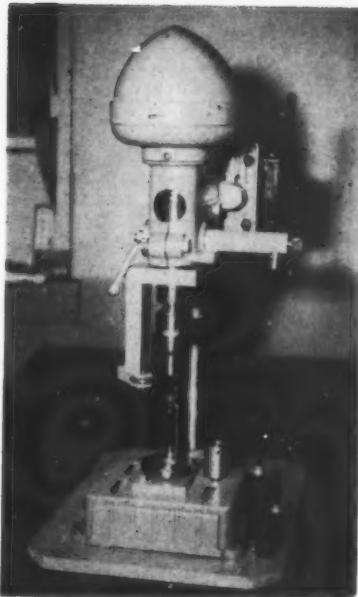
Hand and semi-automatic sealing of fiber boxes with "Seal" adhesive is described in a new illustrated folder published recently by Philadelphia Quartz Co., Philadelphia. A liquid sodium silicate adhesive, the product is said to set quickly and cause formation of a hard and firm bond between box flaps. "Seal" is claimed to be free of odor, non-poisonous, fireproof, resistant to vermin, rodents and mold, and to be economical in use. Copies of the bulletin are available on request addressed on letterhead stationary to Philadelphia Quartz Co., 1152 Ledger Bldg., Philadelphia 6, Pa.

— ★ —

New Aerosol Lab Equipment

Builders Sheet Metal Works, Inc., 108 Wooster St., New York, recently announced production of two new pieces of equipment for experimental and small production use in the manufacture of aerosols. A portable table model aerosol can pressure filler, constructed of stainless steel, has been designed for the filling of a single aerosol container at a time, the filling operation taking approximately fifteen seconds. The apparatus measures 12 x 10 inches at the base and has a height adjustment of from three to 11 inches to allow for various size cans and bottles. The pyrex glass burettes are covered by a sheet of safety glass. All movable parts are spring balanced. This unit lists for \$375, fob, New York.

A capping machine for placing aluminum caps on glass aerosol bottles is also available. Using a standard drill press for power, the machine will cap approximately one bottle per minute. The bottle is placed on the base of the press and the chuck lowered to hold the bottle



New capping machine of Builders Sheet Metal Works, Inc., New York, for applying aluminum caps on glass aerosol bottles.

and cap firmly. The machine is then turned on so that the bottle revolves. A handle is then moved to force a wheel against the aluminum cap and this pressure rolls the cap on the glass. The manufacturer also stated that bottles and caps should be furnished to make sure that the machine is built to suit the specific bottle. This apparatus lists for \$190 fob, New York.

— ★ —

Corrigan New York Office

J. C. Corrigan Co., Boston manufacturers of conveying systems, recently announced the opening of a sales office at 420 Lexington Ave., New York City. Gilbert Lavoie, who has been associated with the Boston office has been appointed as sales engineer. The telephone number of the New York office is Le-2-9164.

— ★ —

Floor Vendor Boosts Sales

Sales of "Pay-U" livestock fly spray have doubled in some outlets and tripled in others, it was reported recently by the Pay-U Products Division of Moorman Manufacturing Co., Quincy, Ill. The sales boost started when the manufacturer began to use a colorful floor vendor to encourage self service for his product.

Aerosol Valve Booklet

A new four page booklet describing the company's new five-in-one, 5210 aerosol valve design was announced recently by Risdon Manufacturing Co., Naugatuck, Conn. The bulletin pictures and describes the five models which stem from one basic valve design. Cross-sectional drawings show the internal details of the basic valve as well as five actuators which adapt the valve to different dispensing functions.

Of particular interest to the loader or manufacturer of several aerosol products is the inventory-simplifying versatility feature emphasized in the bulletin. It shows how the basic 5210 valve dispenses virtually the entire range of can-packed aerosols, including three-phase, ultra low pressure and foam materials, simply by applying the appropriate actuator.

— ★ —

Rapids Mixer Brochure

Rapids Machinery Co., Marion, Ia., manufacturers of "Marion" mixers, has recently released a two color descriptive brochure covering the firm's line of chemical mixers and accessory equipment. The brochure features the "Marion" standard chemical mixer, heavy duty

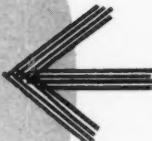
(Turn to Page 189)

New portable table model aerosol can pressure filler of Builders Sheet Metal Works, Inc., New York.



DRYMET®

anhydrous—the most highly concentrated form of sodium metasilicate. Economical, contains no water of crystallization.



Cowles detergent silicates are uniform in composition and particle size—dust free—readily soluble—compatible with other alkalies, soaps, phosphates, synthetic detergents and other chemicals.

Cowles SILICATES

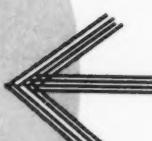
for COMPOUNDING

DRYORTH®

anhydrous—powerful, speedy, heavy-duty sodium orthosilicate—an economical constituent of high pH cleaning compounds.

CRYSTAMET®

pentahydrate—for compounding when lower concentration of finished product is desired. Can be used on medium pH jobs.



FOR USE IN COMPOUNDING

Floor Cleaners

Laundry
Products

Metal Cleaners

Dairy Cleaners

Dishwashing
Compounds

General Purpose
Cleaners

Soap Builders

Paint Cleaners

Paper de-inking
Compounds

Household Cleaners

WRITE TODAY for our DRYMET File Folder containing complete technical information and suggested formulations.



COWLES CHEMICAL COMPANY

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SOAP and CHEMICAL SPECIALTIES

Sodium Lauryl Sulphate

in
its
cheapest,
most
convenient
form...

EMPICOL LZV NEEDLES

Users throughout the World are finding that odourless, non-dusty Empicol LZV Needles are the best possible form of Sodium Lauryl Sulphate. Cheaper to use, cleaner and easier to handle and store, they are ideal for the manufacture of shampoo creams, toothpastes and cosmetics.

WHITEHAVEN, ENGLAND

MARCHON PRODUCTS LIMITED

HEAD OFFICE
Whitehaven, Cumberland, England

Manufacturers of:

ORGANIC DIVISION: fatty alcohol sulphates (**EMPICOLS**), emulsifiers (**EMPILANS**), self-emulsifying waxes (**EMPIWAXES**), alkyl

aryl sulphonates (**NANSAS**) and other detergent bases, additives and emulsifiers in powder, paste and liquid forms.

INORGANIC DIVISION: phosphoric acid and complex phosphates (**MARPHOS** and **EMPIPHOS**).

Century Brand fatty acids meet the demands of the drug and cosmetic industry for consistently high grade products.

If you require a **Triple Pressed Stearic Acid** with large crystals for sheen, **Century 1240** will meet your requirements. If you prefer a smaller crystal material, **Century 1230** is the grade for you.

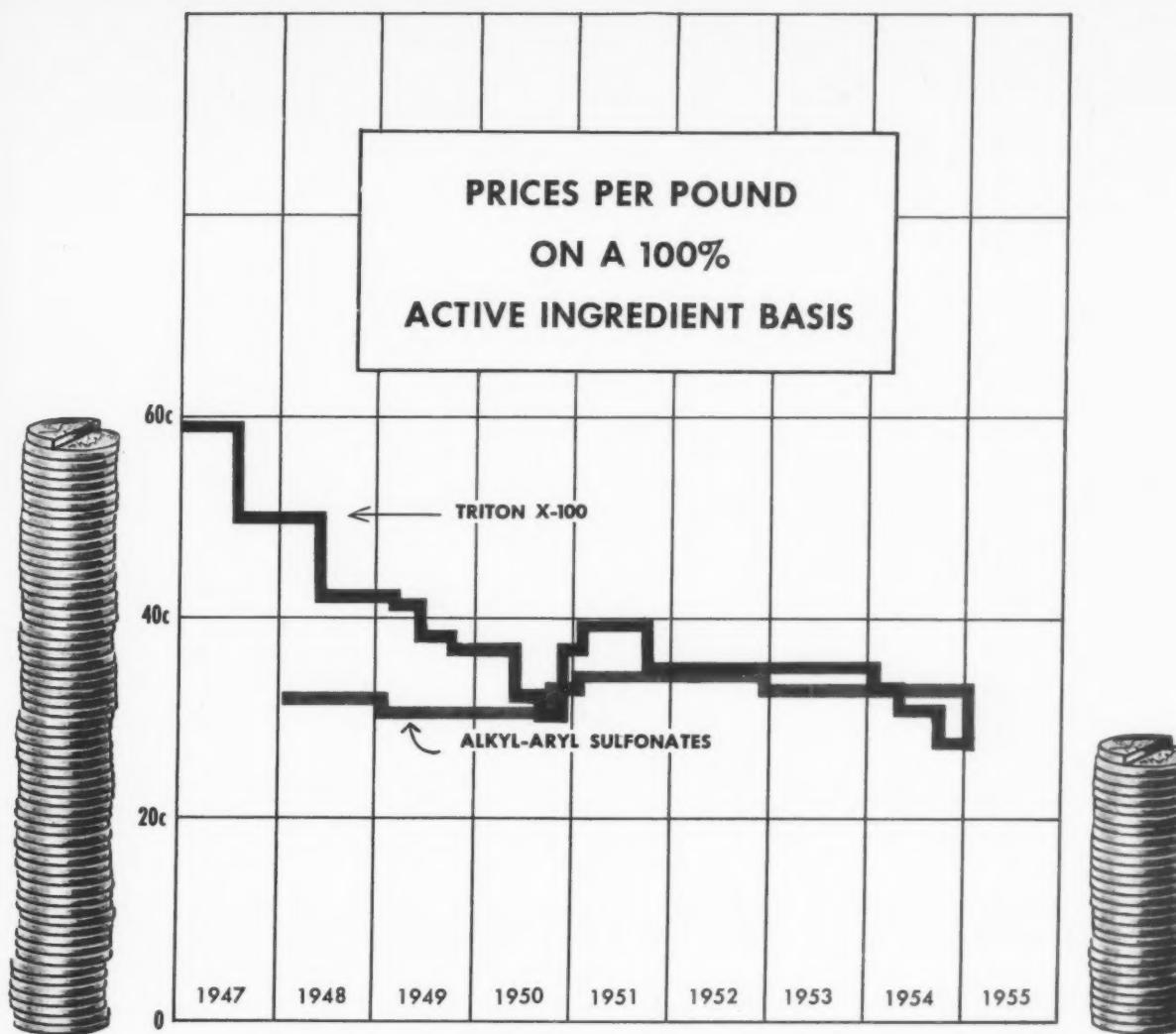
If white esters of **Double Pressed Stearic** are your desire **Century** has **Double Pressed Stearic (1220)** which will give you such white esters and without bleaching.

If color is important in your **Oleic Acid** requirements for shampoos, etc., **Century** has a grade to meet your needs. Whether it be a certain color of standard distilled oleic or a water white double distilled, **Century** has the product to meet your requirements.

Write Today for a Catalogue and Samples

HARCHEM DIVISION
WALLACE & TIERNAN, INC.
Successors to W. C. HARDESTY CO., Inc.
25 MAIN STREET **BELLEVILLE 9, NEW JERSEY**

FACTORY: DOVER, OHIO • IN CANADA: W. C. HARDESTY CO. OF CANADA LTD., TORONTO



Better Results at Lower Cost with **TRITON X-100**

Eight years ago, TRITON X-100 was selling at a price of 59.5¢ per pound (truckloads)—almost twice the price of alkyl-aryl sulfonates. Because this powerful detergent did a superior job, it gained wide acceptance in the field. With wide acceptance came greater demand, more economical production, and substantial price reductions. The present delivered price of TRITON X-100 is 27.5¢ per pound in truckloads; less than half of the original price and competitive with alkyl-aryl sulfonates on an active-ingredient basis.

Low price, of course, does not completely explain the success of TRITON X-100. In addition

to its present low price, TRITON X-100 offers outstanding cleaning ability coupled with remarkable versatility in its applications. Practical experience, and test after test, prove that TRITON X-100 is one of the most effective surfactants available today for cleaning many hard surfaces and textile fibers.

CHEMICALS FOR INDUSTRY

**ROHM & HAAS
COMPANY**

WASHINGTON SQUARE, PHILADELPHIA 5, PA.

Representatives in principal foreign countries

TRITON is a trademark, Reg. U.S. Pat. Off. and in principal foreign countries.

Test Proves STEROX AJ Gives Cleanser LONGER SHELF LIFE WITHOUT DISCOLORING



Two cleansers, one with Sterox* AJ and the other with "Brand X." Both are several months old. Note cleanser with "X" is discolored to point of being unsalable. The Sterox AJ cleanser retains its original light color.

NEW NONIONIC SURFACE AGENT OFFERS EXTREMELY HIGH WETTING, DETERGENCY

Sterox AJ is noted for two qualities: unusual stability with strong alkalis and superior surface-active properties. It's an ideal ingredient for all types of cleansers. For example:

In liquid detergents, alone or with anionic foamers • In dairy and food plant cleaning • In detergent sanitizer formulations • In heavy-duty maintenance cleaners with trisodium phosphate and other builders • In car-washing compounds • In metal-cleaning compounds where acid and alkali stability is vital • In dye leveling, soaping, desizing and soaping off textiles • In vat dyes as a dispersing agent • In rewetting cotton for optimum absorbency.

Sterox AJ is a first-rate soil remover. Combined with builders it provides excellent detergency even in hard waters.

As a rewetting agent for paper toweling Sterox AJ increases absorbency. It helps treating solutions penetrate rapidly into impregnated paper and boxboard.

Monsanto makes other types of nonionic, as well as anionic surface active agents, and a full line of builder phosphates. For impartial advice on wetting agents and phosphates, ask Monsanto's technical service group. Write MONSANTO CHEMICAL COMPANY, Inorganic Chemicals Division, 710 North Twelfth Street, St. Louis 1, Missouri.

LOWEST-COST NONIONIC: STEROX CD

An excellent detergent and emulsifying agent, Sterox CD is used in laundry compounds, institutional cleaners, floor cleaners, and others. Check Sterox CD first for any cleaning product. It will mean big savings.

*Reg. U.S. Pat. Off.



How to Bag a Sales Increase!



Track down the right fragrance for your product. And you can do it by calling our nearest office. Our experts will gladly search from Abyssinia to Zanzibar for the one fragrance that whispers "buy" to your prospects.

Write, or call us—soon!

COVROLS For various industrial and
NAUGAROMES commercial uses.
SOAPOLS—For bar, paste and liquid soaps.
SHAMPAROMES—For liquid, cream and paste
shampoos.
MODERN BASES—For fine perfumes, colognes,
toilet waters, toilet preparations, etc.
CREAMODORS—For all types of creams and lotions.

ROUBECHEZ, INC.

8 East 12th St., New York 3, N.Y.—701 South La Salle St., Chicago 5, Ill.
R. M. Ferguson & Co., 81 Dunedin Drive, Toronto 18, Canada

Sole Distributors for:

JEAN ROURE—PIERRE ZILLER—BRUNO COURT S. A.
GRASSE, FRANCE

MANUFACTURERS OF AROMATIC CHEMICALS—IMPORTERS OF ESSENTIAL OILS



DOW CAUSTIC SODA

Availability of 73% caustic soda solution from Dow is now importantly increased. Two new bulk terminals—at Bayonne, N. J. and North Charleston, S. C.—are speedily serviced by the new liquid chemicals tanker *S. S. Marine Dow-Chem*. These added distribution points, plus expanded 73% production facilities at Midland, Mich. and

Freeport, Texas, mean *faster, more economical delivery* to the growing number of 73% caustic users.

Our Alkali Sales Department will gladly assist you in accurately figuring your potential *savings* with 73% caustic. THE DOW CHEMICAL COMPANY, Dept. AL-362G Midland, Michigan.

you can depend on DOW CHEMICALS



Dependable Delivery to your doorstep . . .



Call the nearest CARBIDE office for more detailed information on delivery of your chemical needs in:

- * 55 gallon drums for LCL or carload lot delivery
- * compartment tank trucks or tank cars
- * 4-, 6-, 8-, or 10,000-gallon tank car shipments

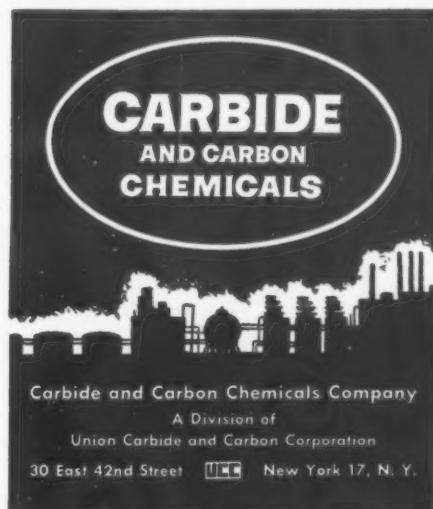
3 ways CARBIDE'S Distribution facilities benefit you—

1 The location of CARBIDE's 6 plants, 14 bulk storage stations, and 49 warehouses has been carefully planned to permit prompt and efficient delivery.

2 A constant source of supply is provided—there is a warehouse near every important industrial area. This means uninterrupted production schedules and better inventory control.

3 Teletype service links your CARBIDE office with each distribution center in your area. This assures prompt action on your order.

In Canada: Carbide Chemicals Sales Company, Division of Union Carbide Canada Limited, Toronto



A Name
to Remember

TURNER

in Chemicals for the
Soap and Allied Industries

- ★ *Caustic soda*
- ★ *Caustic potash*
- ★ *Potassium Carbonate*
- ★ *Potassium Persulphate*
- ★ *Ammonium Persulphate*
- ★ *Salt*
- ★ *Soda Ash*
- ★ *Sodium Bicarbonate*
- ★ *Sodium Metasilicate*

- ★ *Silicate of soda*
- ★ *Silicate of potash*
- ★ *Trisodium phosphate*
- ★ *Metallic stearates*
- ★ *Synthetic detergents*
- ★ *Borax*
- ★ *Boric acid*

- ★ *Coconut oil*
- ★ *Coconut fatty acids*
- ★ *Cottonseed oil*
- ★ *Red oil*
- ★ *Stearic acid*
- ★ *Tallow*

Liquid Caustic Soda, Caustic Potash, and Potassium Carbonate
Tank trucks and drums a specialty

Joseph Turner & Company

Ridgefield, New Jersey

83 Exchange Pl., Providence, R. I.

435 N. Michigan Ave., Chicago, Ill.

News

Tormey to White King Bd.

The naming of W. J. Tormey, vice-president and director of sales and advertising of White King Soap



W. J. Tormey

Co., Los Angeles, to the board of directors of the firm was announced late last month by H. Paul Grimm, president. Mr. Tormey has been with the firm for 18 years, having started with White King Soap Co. in 1936 setting up displays in grocery stores. Later he advanced to a selling position in one of the neighborhood territories in the Los Angeles area. From this work he moved on into more specialized sales efforts in the super-market field. Later, Mr. Tormey went into the advertising department of the firm and eventually advanced to branch office sales manager. In 1952, he was named general sales manager of White King Soap Co. and the following year was elected vice-president and director of sales and advertising. He continues in this capacity as well as serving on the board of directors.

— * —

Seibert Killed in Crash

George E. Seibert, 64, southeastern representative for Davies-Young Soap Co., Dayton, O., was killed recently in an auto accident. With the firm for the past 27 years,

Mr. Seibert covered a territory consisting of Alabama, Mississippi, Florida, and New Orleans. He is survived by his wife and two sons. His home was in Cairo, Ill.

Breck Honors Officers

Edward J. Breck, president of John H. Breck, Inc., Springfield, Mass., and John H. Breck, Jr., executive vice president, were honored at a testimonial dinner held recently for long-time employees. Edward J. Breck received a gold pin denoting completion of 25 years of service with the organization and John H. Breck, Jr., was awarded a gold pin signifying 15 years with the firm.

Cudahy Advances McCord

Guy M. McCord, recently in charge of margarine packaging operations in South Chicago for Cudahy Packing Co., Chicago, has been advanced to superintendent of Cudahy's oil refining, shortening, and margarine plant in Memphis, Tenn., it was announced last month. Previous to joining the packing firm, Mr. McCord was plant superintendent of Davies-Young Soap Co., Dayton, O. For 18 years prior to that assignment he was plant superintendent of the Memphis plant of J. R. Watkins Co., Winona, Minn.

Guy M. McCord



Lever Names Wrisley

George A. Wrisley, Jr., has been appointed assistant sales manager — personnel for the Lever Di-



George A. Wrisley, Jr.

vision of Lever Brothers Co., New York, it was announced last month by Ray F. Underwood, the division's general sales manager.

Since May 1951 Mr. Wrisley had been general sales manager of Allen B. Wrisley Co., Chicago, of which his father is general manager. He had previously served as manager of private brand sales. In his new position with Lever, Mr. Wrisley will develop recruitment and training programs for the field sales organization.

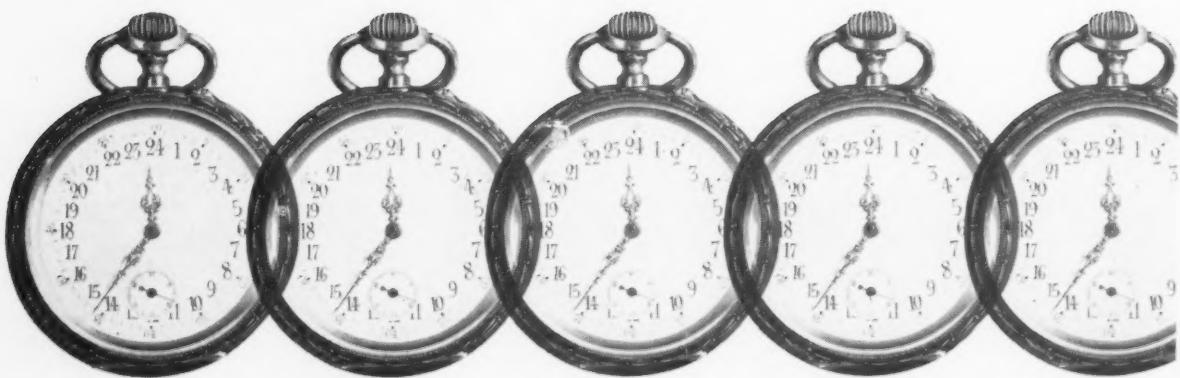
Controllers Elect Simpson

John D. Simpson, treasurer of Economics Laboratory, Inc., St. Paul, Minn., was recently elected to membership in the Controllers Institute of America.

Pal Products Moves

Pal Products Manufacturing Corp., Brooklyn, recently moved its offices and plant to new quarters at 180 Sullivan St., Brooklyn 31, N. Y. The firm's telephone number is TRIangle 5-1102. Pal manufactures cleansers and does private label work.

You're Just Hours Away...



from a GENERAL CHEMICAL Supply Point!

Albany, N. Y.
 Atlanta, Ga.
 Baltimore, Md.
 Bay Point, Calif.
 Birmingham, Ala.
 Boston, Mass.
 Bridgeport, Conn.
 Buffalo, N. Y.
 Camden, N. J.
 Charlotte, N. C.
 Chicago, Ill.
 Cleveland, O.
 Denver, Colo.
 Detroit, Mich.
 East St. Louis, Ill.
 Edgewater, N. J.

Hedges, Wash.
 Houston, Texas
 Jacksonville, Fla.
 Kalamazoo, Mich.
 Los Angeles, Calif.
 Marcus Hook, Pa.
 Milwaukee, Wisc.
 Minneapolis, Minn.
 New Orleans, La.
 New York (L. I. C.), N. Y.
 Oakland, Calif.
 Passaic (Dundee), N. J.
 Pittsburgh, Pa.
 Portland, Ore.
 Providence, R. I.
 Pulaski, Va.
 San Francisco, Calif.
 Savannah, Ga.
 Seattle, Wash.
 Syracuse, N. Y.

36 STREAMLINED DISTRIBUTING STATIONS TO SERVE YOU...

to assure the fastest, smoothest service possible for its customers, General Chemical maintains one of the most efficient chains of warehouses and distributing stations in the country for acids, alums, phosphates and many other industrial chemicals. Presently, it has 36 streamlined distribution centers strategically located from coast to coast. Each is fully stocked with the chemicals required in the area it serves. Each is geared to supply your needs for any of the products listed below.

Why not check up on how the "G. C." distributing station in your territory can be put to work for you. For further information, just phone or write the nearest General Chemical office.

...WITH THESE PRODUCTS!

Acids Alums Phosphates

Sodium Compounds Fluorine Derivatives

Other Heavy Chemicals

Basic Chemicals for American Industry



GENERAL CHEMICAL DIVISION

ALLIED CHEMICAL & DYE CORPORATION

40 Rector Street, New York 6, N. Y.

Offices: Albany • Atlanta • Baltimore • Birmingham • Boston • Bridgeport • Buffalo • Charlotte • Chicago • Cleveland • Denver • Detroit • Greenville (Miss.) • Houston • Jacksonville • Kalamazoo • Los Angeles • Minneapolis • New York • Philadelphia • Pittsburgh • Providence • San Francisco • Seattle • St. Louis • Yakima (Wash.) • In Wisconsin: General Chemical Company, Inc., Milwaukee

In Canada: The Nichols Chemical Company, Limited • Montreal • Toronto • Vancouver

T. H. Rider Dies

Theodore H. Rider, Sr., 51, director of research for Coty, Inc., New York, died Jan. 31 in St.



T. H. Rider

Barnabas Hospital, New York. A graduate of Yale University he was formerly director of research for Lever Brothers Co., New York, and for Pepsodent Toothpaste Co. He is survived by his wife Edna; by his mother, two sons and a daughter.

Holds P & G Liable

A New York City court recently held that Procter & Gamble Manufacturing Co., Cincinnati, was negligent in advertising that one of its detergent products is "kind to hands," even though it allegedly had knowledge that the product is irritating to a substantial number of people. The court held the company liable, in spite of the fact that "it had not been definitely established that the product contained any harmful, deleterious or inherently dangerous substances." The court emphasized that the company was negligent in advertising its product as "kind to hands" and in endeavoring to build up in the public mind the belief that this product was harmless to all users. The court further stated that despite its knowledge that this harmlessness to all users was not a fact, the manufacturer continued this advertising and did not in any way apprise the public of possible danger to some users.

The court concluded: "In view of the manufacturer's knowl-

edge that its product was of an irritating nature to a substantial number of persons testing it, its continued advertising of the product as "kind to hands" was a tortious act for which it is liable."

The number of persons affected adversely by the product was reported to be seven percent. The decision was handed down by Judge Picariello in the case of Lehner v. Procter and Gamble Manufacturing Co.

— ★ —

Milton A. Lesser Dies

Milton A. Lesser, 47, technical editor of *Drug and Cosmetic Industry*, and a frequent contributor of articles to *Soap & Chemical Specialties*, died at his home in Brooklyn, Jan. 31, after a long illness.

A 1931 graduate of the City College of New York, Mr. Lesser later did research work at Fordham and New York Universities. His book, "Modern Chemical Specialties", was published in 1950 by Mac Nair-Dorland Co., New York. In addition, Mr. Lesser was a consultant to the Association of American Soap & Glycerine Producers, Inc., and wrote widely on the applications of glycerine. He was a member of the American Chemical Society, the New York Academy of Science, the American Pharmaceutical Association and the American Association for the Advancement of Science.

Mr. Lesser is survived by his widow, Rose; a son, Paul A.; a daughter, Martha, and two sisters.

— ★ —

Bluman Heads Harchem

E. H. Bluman, formerly executive vice president of W. C. Hardesty Co., has been elected vice president in charge of the Harchem Division, it was announced last month by Wallace & Tiernan Inc., Belleville, N. J. Dr. Bluman has been associated with the Hardesty organization since 1940. Harchem's plant is in Dover, N. J.

H. W. Crogan's appointment as vice president in charge of Wallace & Tiernan's Maltbie Laboratories Division was announced at the same time.

Armour Shifts Miller

L. M. Miller has been appointed eastern regional sales manager for the chemical division of



L. M. Miller

Armour & Co., Chicago, with headquarters in North Bergen, N. J., it was announced recently. Mr. Miller, formerly manager of the division's market development department in Chicago, succeeds the late Kenneth E. Johnson. A graduate of Purdue University, Mr. Miller joined Armour in 1951 as a technical salesman in the market development department and became manager of the department in the following year. He has worked on the development of tertiary amines and fatty acids.

E. L. Rhoads, Jr., assistant manager of the derivatives department, succeeds Mr. Miller as manager of market development. R. E. Eddy becomes assistant manager of the derivatives department.

— ★ —

Hart Expansion Program

Hart Products Corp., New York, recently announced the completion of a \$100,000 expansion program at its Jersey City, N. J. plant. Installation of modern, all-stainless-steel pressure equipment for the manufacture of non-ionic surface active agents and other ethylene oxide condensates was recently accomplished. The new manufacturing unit is fully automatic and is equipped with all modern safety devices and controls for maintaining exact specifications during manufacture.

Detergent Alkylate No. 2

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of household



and industrial



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DETERGENT ALKYLATE No. 2 produces alkyl aryl sulfonates with exceptionally good color and odor characteristics, and unusually desirable detergent and foaming properties.

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No. 2. Write for information to
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Philadelphia, Providence, Charlotte, Chicago.

In the West: L. H. Butcher Co.

In Canada: Naugatuck Chemicals Division
of Dominion Rubber Company, Ltd.

In Europe: Atlantic Chemicals SAB,
Antwerp, Belgium.

Quality in Odor Trend

THE annual sales meeting of van Amerigen-Haebler, Inc., New York, was held, Jan. 13-14 at Hampshire House, New York. Sixty-eight members of the company participated in the two day session. Keynote speaker of the meeting was A. L. van Amerigen, president, who stressed the value of group effort. He also called attention to the growing trend among manufacturers in seeking to improve the quality of odor in their products. This was cited as one of the most important factors in maintaining brand loyalty.

The eventual transfer of all of the company's aromatic and flavor manufacturing operations to the new plant at Union Beach, N. J., where 600 aromatic chemicals are presently produced, was forecast by Charles P. Walker, executive vice-president of van Amerigen-Haebler. The 150 acre Union Beach plant site, acquired in 1950, is the location of research and production buildings. Van Amerigen-Haebler also has a plant in Elizabeth, N. J.

The research department is developing and evaluating entirely new aromatic materials at the rate of approximately 400 per year, according to Dr. R. W. Teegarden,

Grows: van Amerigen

director of research. A substantial percentage of these new developments has proved acceptable for use in perfumery and provides new notes for the perfumer's palette, he said.

New developments in the fields of soap, cosmetics and perfumes were discussed at the afternoon session, Jan. 14, by Christian Wight, Waldo Reis and Ernest Shifman. A. J. Dedrick, sales manager, also spoke at the session.

A discussion of flavoring materials highlighted the afternoon session of Jan. 13, at which time Dr. James H. McGlumphy, vice-president, reviewed many of the applications for the new "Sealva" flavors.

— ★ —

Phila. Quartz Brochure

Philadelphia Quartz Co., Philadelphia, has recently issued an eight-page booklet describing properties and applications of its "Kasil" line of potassium silicates. Among the uses suggested are formulations of liquid and paste soaps. Potassium silicates are said to increase sudsing ability, effectively suspend soil, and prevent redeposition of re-

Group photo taken during recent van Amerigen-Haebler sales meeting.

moved soil. High solubility and miscibility are claimed for the "Kasil" line. "Kasil" 1 and 6 can be used as a builder for potassium coconut oil soaps with little or no effect on viscosity. Additions of these products to 20 percent soya or linseed oil soap solutions will result in increased viscosity. "Kasil" 1 should be used where clarity is essential, since this silicate is clear and colorless.

— ★ —

Named by Lever, Ltd.

Lever Brothers, Ltd., Toronto, Canada, has advanced three sales executives, it was announced recently by C. A. Massey, president. H. Greenway, previously marketing director, has been appointed vice-president; J. C. Lockwood, former sales director, succeeds Mr. Greenway as marketing director. F. P. Steele, who was western regional manager, now becomes general sales manager. Mr. Steele joined Lever in 1938 as a salesman in Vancouver. In 1946 he was appointed field supervisor in the Prairie Provinces and in the following year transferred to the Maritime Provinces. In 1949 he returned to Vancouver and in 1951 he was appointed division manager for British Columbia and Alberta. In 1954 he became western regional manager.





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| Castor | Palm |
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ANIMAL FATS

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| Sperm Oil | Grease |
| Oleo Stearine | Tallow |
| Lard Oil | Lanolin |
| Neatsfoot Oil | |

FATTY ACIDS

| | | |
|-------------------------|--------------|--------|
| Red Oil | Tall Oil | Tallow |
| | Stearic Acid | |
| Hydrogenated Fatty Acid | | |
| Cottonseed and Soybean | | |
| Fatty Acids | | |

ALKALIES

Caustic Soda, Solid, Liquid, and Flake; Soda Ash, Light and Dense Carbonate of Potash, calcined and hydrated
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Tri Sodium Phosphate
Tetra Pyro Phosphate
Quadratros Granular and Beads—a stable polyphosphate for water conditioning and mild but effective detergency.

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METASILICATE—“Metso”* Granular.

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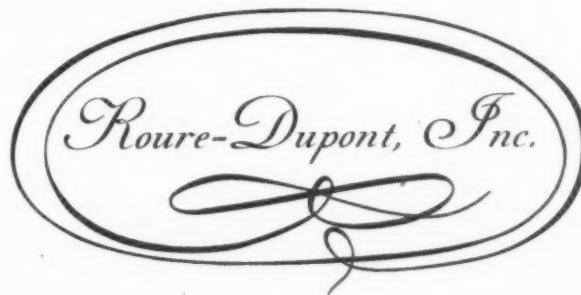
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Established 1838

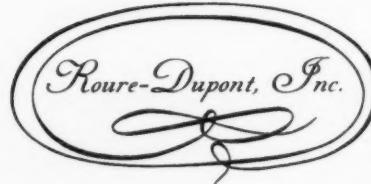
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Magnus Predicts Record Volume in '55

APREDICTION that Magnus, Mabee & Reynard, Inc., New York, would achieve its highest sales volume in the history of the essential oil firm was made recently by MM&R's president, Percy C. Magnus. Mr. Magnus made this forecast during the four-day 24th national sales conference of MM&R, held at the Hotel Sheraton-Astor, New York, Jan. 19-22. Joining Mr. Magnus in his prediction as to the 1955 outlook were MM&R's vice-presidents, Joseph Baird Magnus, Robert Burke Magnus and George H. McGlynn, and other company officers and executives, including Arthur H. Downey, chairman and Bernard Jeffs, director of advertising, co-chairman of the convention.

Guest speakers included Jerry Froote, general sales manager of Propel Chemicals, Inc., New York; Thomas D. Johnson, Jr., aerosol sales manager, Kinetic Chemicals Division, E. I. du Pont de Nemours & Co., Wilmington, Del., and Charles Reed of Lederle Laboratories, Stamford, Conn. Mr. Reed spoke on "Modern Flavors for Modern Medicines," while Messrs. Johnson and Froote discussed the growing aerosol market. Miss Betsy A. Meldon of the New York Telephone Co., New York, spoke on productive techniques in selling by telephone.

Panel discussions participated in by the company's flavor and perfume specialists were devoted to principal applications for these materials.

Visits to the firm's manufacturing laboratories and the plant and laboratories of Helena Rubinstein

in Roslyn, N. Y. highlighted the meeting. Arthur H. Downey, assistant vice-president and director of research and control directed the plant tours. M. Stanley Barker, MM&R assistant vice-president and metropolitan New York sales manager, presided at a luncheon in honor of Rubinstein executives at the Swan Club, Glenwood.

The convention concluded with a sales and staff dinner at the Hotel Sheraton-Astor, at which time Shockley C. Gamage, assistant to the president, was inducted in the MM&R Twenty-Year Club.

— ★ —

Shea Phosphorus Folder

A four page technical bulletin, "Phosphorus and its Derivatives for the Chemical Industry" was announced early this month by Shea Chemical Corp., 1201 St. Paul St., Baltimore 2, Md. Uses, properties, grades and shipping information on elemental phosphorus, phosphoric acid, dicalcium phosphate, ferro-phosphorus, calcium silicate, sodium tripolyphosphate, monosodium phosphate, disodium phosphate, sodium tetraphosphate, and sodium hexametaphosphate are listed in the folder. It is available on request from Shea.

— ★ —

Fels Advances Two

Two district managers of Fels & Co., Philadelphia, have been advanced to division sales managers, it was announced last month. Owen Walsh, formerly Philadelphia district manager, now is Middle Atlantic division sales manager. In his new post he supervises sales operations originating in Philadelphia,

Harrisburg, Pittsburgh, and Scranton, Pa.; and in Baltimore, Md., Washington, D. C., Buffalo, N. Y., and Steubenville, O.

Frank Jelinek, newly appointed eastern division sales manager, supervises sales in metropolitan New York and surrounding area. He was previously New York City district manager for Fels.

— ★ —

Verley Moves to Linden

Albert Verley & Co., recently moved its general offices and perfume compounding facilities from Chicago and New York City to a new plant and office building at 1375 East Linden Ave., Linden, N. J. The move, announced by E. J. Strobl, Verley president, became effective Feb. 1. The firm continues to manufacture its line of aromatic compounds at its Newark, N. J., plant. Sales offices continue to be maintained at 114 East 25 St., New York, and at 1018-24 South Wabash Ave., Chicago. Telephone number of the new Linden headquarters is Wabash 5-1105.

— ★ —

New Hooker Appointments

Gerald L. Glespen has joined the sales department of Hooker Electrochemical Co., Niagara Falls, N. Y., as sales analyst, it was announced recently by Robert E. Wilkin, vice president and general sales manager. Mr. Glespen's previous associations include Barrett Division of Allied Chemical & Dye Corp., New York, Hercules Powder Co., Wilmington, Del., and American Cyanamid Co., New York.

At the same time Hooker announced that James M. Young, III, chemical engineer, and Robert P. Keating, chemist, have become members of the process study group.

in photos below taken by SOAP's photographer during recent four day sales meeting of Magnus, Mabee & Reynard, Inc., New York: Left to right: Joseph B. Magnus; R. Melvin Goetze, president, Goetze Candy Co.; Percy C. Magnus, and J. W.

Felton, Jr.; Bernard Jeffs; Robert B. Magnus; Thomas D. Johnson, Jr., Kinetic Chemicals Div., E. I. du Pont de Nemours & Co., Wilmington; Shockley C. Gamage, and Jerry Froote, Propel Chemicals, Inc., New York.



FAMOUS LIGHTHOUSES OF AMERICA



MONTAUK POINT LIGHTHOUSE, completed in 1797, was one of the first to be constructed by the Federal Government following organization of the Lighthouse Service in 1789. Standing on a high headland of rocks and sand dunes, it marks the southern entrance to Block Island Sound as well as the eastern extremity of Long Island—an area of great danger to ships because of violent storms and the prevalence of fog.

Safe passage through many channels of production has been provided to thousands of users of electrochemicals by the skillful cooperation of Niagara Alkali Company. Niagara is a pioneer in the development, production and application of these important chemicals: Nialk® Liquid Chlorine, Nialk Caustic Potash, Nialk Carbonate of Potash, Nialk Paradichlorobenzene, Nialk Caustic Soda, Nialk TRICHLORethylene, Niagathal® (Tetrachloro Phthalic Anhydride).

NIAGARA ALKALI COMPANY

60 East 42nd Street, New York 17, N. Y.



G. H. Hallenbeck, newly appointed head of the soap department of Swift & Co., Chicago, joined the hotel sales department of Swift in 1933. In 1937, he was transferred to the branch house sales division, where he spent the next several years traveling among company units. He joined the soap department of Swift in 1947, where he headed the industrial soap division prior to his appointment as manager. In his new post, Mr. Hallenbeck succeeds M. L. Westering, who has been assigned to specialized duties in the office of Swift executive vice-president O. E. Jones. Mr. Westering will supervise the activities of the Red Wagon division of Swift at the new \$15,000,000 "Disneyland"



amusement park being constructed in Hollywood, Calif., by film producer Walt Disney. Mr. Westering, an extremely well-known figure in the soap industry, has been with Swift for 32 years. He first joined the firm at North Portland, Ore., in 1922 as a salesman. In 1931, he was advanced to assistant sales manager, and in 1935 was transferred to South St. Paul, Minn., in the same capacity. Shifted to Chicago in 1936 as a member of the general plant sales department, Mr. Westering was appointed head of the general soap department in 1939. He has been head of that department since 1941, supervising production, distribution and sales of all types of Swift soaps and cleansers.

Soap Assn. Meets

(From Page 40)

thetic and 70 percent by-product. Price competition with other polyols has produced in 1954 such a narrow margin that domestic refiners of imported and other purchased crude found themselves with an inadequate differential for the cost of refining. One east-coast refinery was closed as a result. As a consequence of this narrow margin 1954 saw a reversal of the import-export trend. A net import balance of 31 million pounds in 1953 became a net export balance of 2.6 million pounds through November 1954. Crude glycerine suppliers in Argentina, for example, were able to get a better price in the United Kingdom, Germany or South Africa, resulting from a European trend from soap to detergents and general industrial expansion.

Domestic glycerine usage has been stable in 1954, estimated at 223 million pounds or virtually the same as 1953.

Total domestic production

for the year is 207 million pounds. This includes crude and synthetic, but excludes domestically refined foreign crude, or that made available with the decrease of stocks. Unofficial estimates place synthetic production at 50 to 60 million pounds a year. If one assumes 58 million pounds, natural glycerine production would be about 149 million pounds as compared with 163 in 1953. This decrease of nine percent is a little less than the decline in soap production, which may be due to some fatty alcohol expansion, which is expected to increase in 1955.

Official figures indicate that glycerine is being used at the rate of one or two million pounds a month in excess of domestic production, and that stocks are declining. Increased availability of natural glycerine abroad appears unlikely. At the Paris detergents congress last summer it was predicted that soap production in Latin America, Asia and Africa would increase approximately 25 percent between now and 1970. At the same time the trend

from soap to detergents in the United States and Europe would offset soap expansion elsewhere so that by 1970 a net decline of soap production would amount to about 11 percent.

New synthetic glycerine capacity in the United States will include an added two million pounds a month from Shell Chemical Corp. due in the spring and a similar amount from a Dow Chemical Co. plant announced for late in 1955.

Prospect of glycerine growth is good. However, competition by other polyols is the unknown factor in the equation. Application research and cooperative educational publicity are seen as the answers. ★★

Glyco Moves to New York

The executives and sales offices of Glyco Products Co., Brooklyn, will be moved to the Empire State Building, 350 Fifth Ave., New York 1, N. Y., March 1, it was announced recently.

Perrone to Standard

Fred Perrone has joined Standard Aromatics, Inc., New York, and has been elected a vice president, it was announced recently. Mr. Perrone comes to Standard Aromatics from Dodge & Oleott, Inc., New York, where he served as a sales representative for the past four years. He had joined D & O's customer service department in 1946. From 1943 to 1946 he was associated with Givaudan - Delawanna, Inc., New York.

Fred Perrone

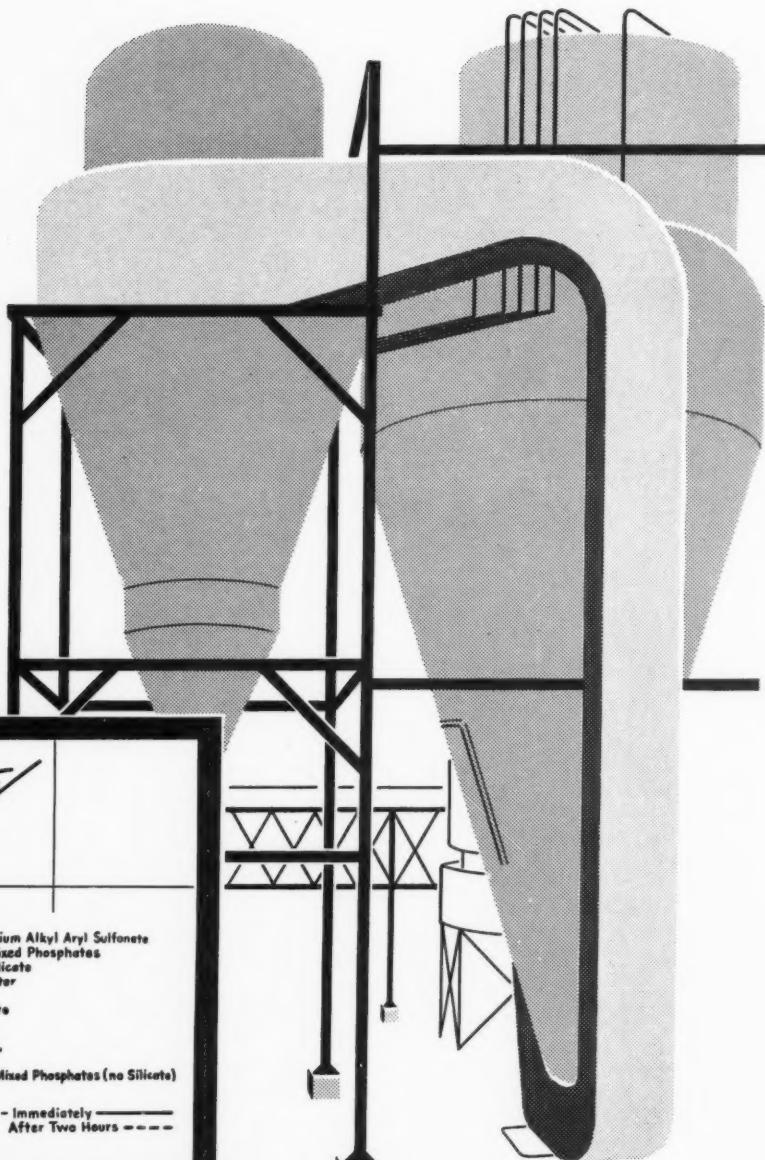
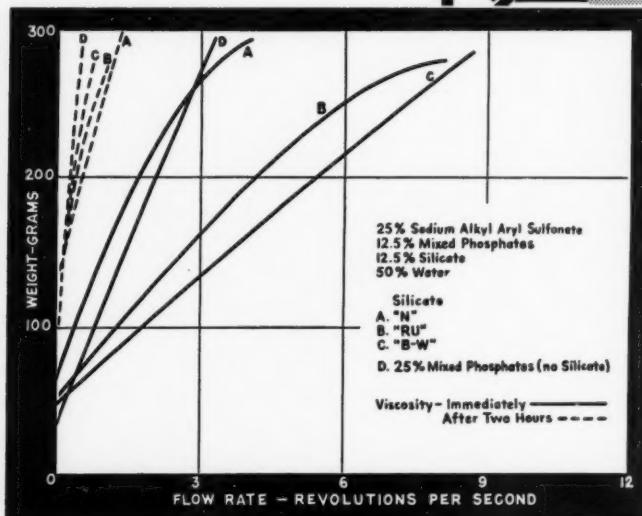


Easy-flowing detergent slurries

Keeping slurries at the proper viscosity for spray drying is easier when PQ Sodium Silicates are used in synthetic detergents. Of particular interest are RU® Silicate (ratio 1:2.4) and B-W® Silicate (ratio 1:1.6); the lower viscosity slurries which they produce are plotted in the accompanying graph. You will want a copy of our study, "Viscosities and Solubilities of Synthetic Detergent Mixtures Containing Soluble Silicates." Ask for No. 1-17.

Along with this easy workability in the spray tower, you can count on PQ Silicates for increased detergent values and for the very important property of protecting metals from corrosive attack.

No wonder more and more synthetic detergents are being made with PQ Silicates in them.



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PQ® Soluble Silicates
METSO® DETERGENTS

Dishwash Detergents

(From Page 45)

chlorite may be almost as obnoxious to the user. Many people characterize hypochlorite as a "clean" odor and actually like it.

Second on the list of troubles encountered in home dishwashers is black spotting on silverware, due almost entirely to solid particles of undissolved chlorinated phosphate coming in contact with the ware. An unsightly black discoloration occurs whenever this happens. The spot is readily removed by polishing but will not wash off. Occasionally an over-all darkening due to either massive doses of detergent or insufficient rinsing will be encountered.

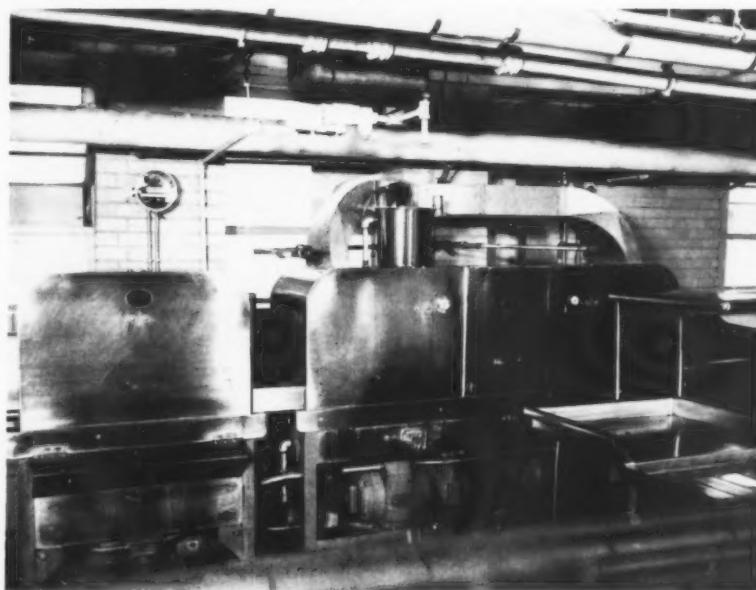
Third is the problem of corrosion of aluminum. Colored anodized finishes are destroyed as is the case when they are washed with any alkaline detergent in a dishwasher. New shiny aluminumware loses its gloss and acquires a white, matte surface. Old, darkened or stained ware frequently improves in appearance on washing with a chlorinated detergent. One dishwasher on the market contains some aluminum parts, the dimensions of which are somewhat critical; corrosion can

cause mechanical trouble in this machine.

A fourth factor of which the user may not be immediately aware is attack on overglaze decorations on chinaware, especially the inexpensive semi-vitreous ware and upon the vitreous enamel finish of the dishwasher tub. Highly silicated detergents are much less prone to this type of attack and inasmuch as the non-silicated or low silicate chlorinated detergents are comparatively vicious in accelerated laboratory tests on china it is to be expected that some complaints will come in from the field. Surprisingly enough, thus far, direct complaints from users have been very few even though we know that they have been using chlorinated products regularly for three years.

After reciting all of these possible sources of trouble you may wonder whether chlorinated products have any real future in home dishwashers. Frankly we do not know, some users will never see any of the negative effects and it is hard to match the detergent properties of the chlorinated products. The other uses, home laundry and general cleaning may grow to be of a greater volume than the mechanical dishwashing application. New and better

Flow of detergent to dishwashing machine is controlled by electronic dispenser shown in upper left center of photograph.



surfactants may enable us to improve older polyphosphate-silicate mixes to competitive levels of detergency—perhaps someone will come up with a superior surfactant (liquid) that will do the entire job by itself. Especially in a relatively new field, technologically, it is hard to predict the future trends.

Summarizing:

(a) By combining sodium tripolyphosphate and chlorinated tri-sodium phosphate as major constituents a new class of spray type mechanical washing detergents has been established.

(b) New standards of bacteriological cleanliness are possible and substantially higher levels of detergency can be achieved.

(c) The new chlorinated detergents have a wider field of application than the older polyphosphate-alkali mechanical dishwashing compounds.

(d) The new chlorinated products are of proven worth in commercial dishwashing. They are of extraordinary merit in the home, in some respects, but certain adverse properties render their future unpredictable.

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Booklet on Amer. Alcolac

American Alcolac Corp., Baltimore, is offering a booklet carrying information on the firm, its background, growth, and various products, it was announced recently by John E. Andre, executive vice president. The publication is available from Alcolac.

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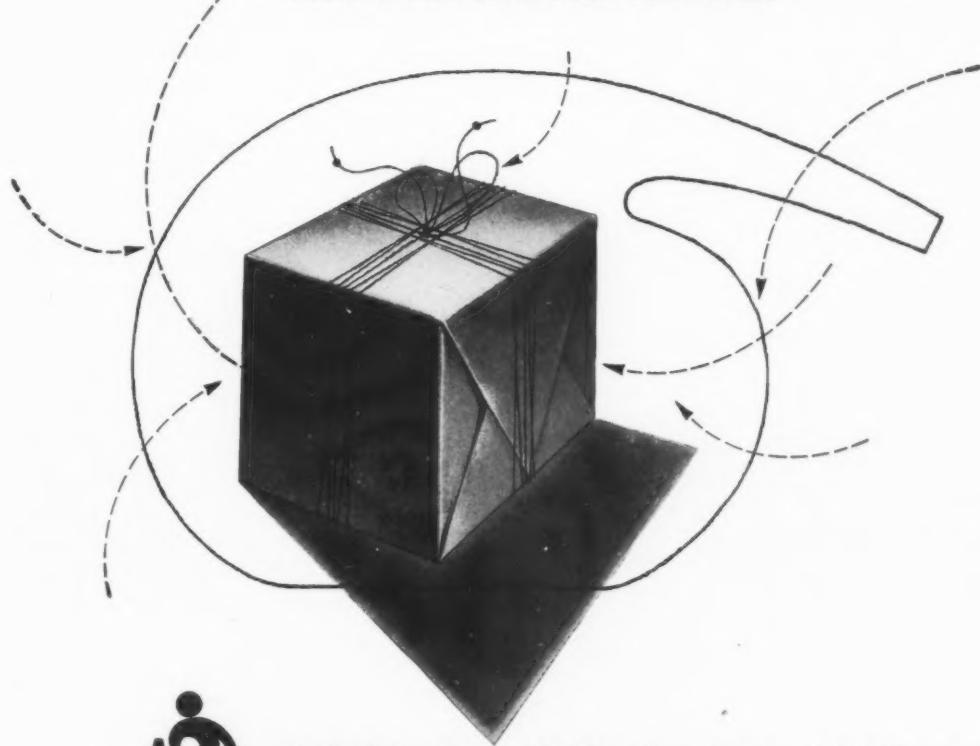
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new
aromatic chemical
musk-tonkin type
lasting, economical**

Useful addition to present standard fixatives

Does not discolor perfumes, creams, soaps, and
other cosmetic preparations

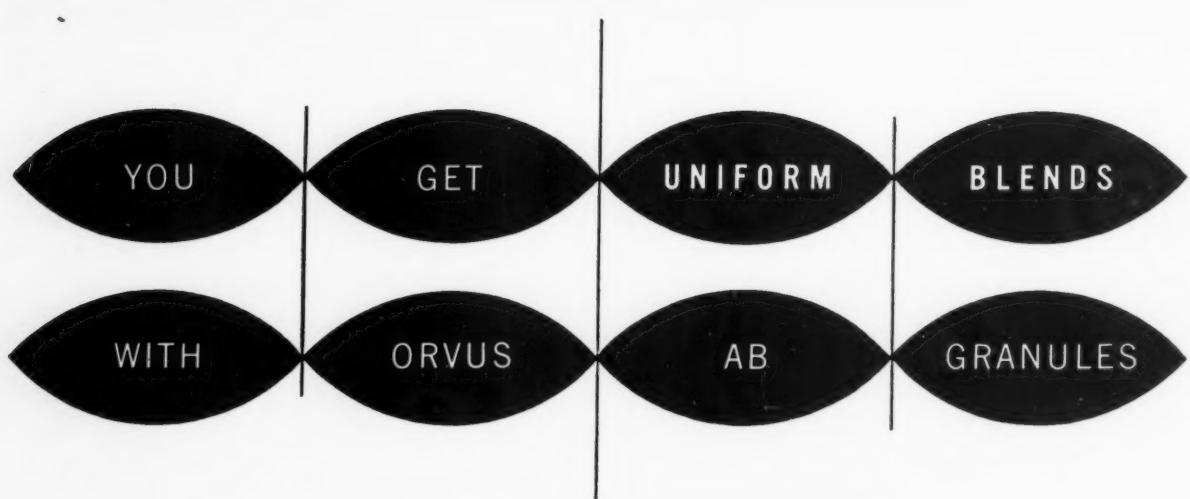
Like a string around a package, it...

HOLDS THE PERFUME TOGETHER

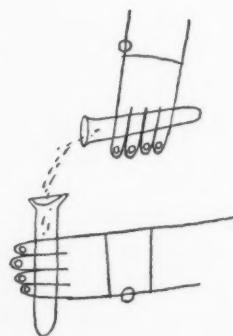


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*Domestic and Foreign Patents applied for.



- In choosing a detergent for converting purposes, one essential must be its ability to blend readily and intimately with other ingredients. Here is one of several important advantages you'll find in Orvus AB Granules.
- Orvus AB is an unusually efficient synthetic detergent of the alkyl aryl sulfonate type. A neutral "blown" product in uniform, free-flowing granular form, Orvus AB has exceptional detergent, sudsing, wetting, dispersing, and emulsifying properties.
- The surfaces of Orvus AB Granules are designed to minimize stratification, sifting or settling. You get *uniform* blends with Orvus AB Granules -- as well as freedom from gumminess.
- Inquiries regarding the application of Orvus AB Granules to your particular type of product are welcomed. The technical help and advice of our research people are at your disposal — without obligation.



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Whether with pigments, in combination with soaps for hard water use and in metal polishing operations, Neutronyx 600 offers extremely uniform, effective dispersion.

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Bids and AWARDS

Awards to Airosol

Airosol Co., Neodesha, Kans., received two separate awards on insecticides with the low bids of 48.18 cents, 30,000 containers, and 49.8 cents, aerosol, in two recent openings for miscellaneous supplies by the Federal Supply Service, Dallas and Kansas City, Mo., respectively. Nov. 23, inv. 39340, and Nov. 3, inv. 36199.

FSS Herbicides Awards

Barco Chemicals, Inc., Des Moines, Ia., and Export Chemical Corp. of Colorado, Denver, both received awards on herbicides in a recent opening for miscellaneous supplies by the Federal Supply Service, Denver. Barco's bids were item 1, \$2.35, item 2, \$2.10, item 3, \$1.95, item 4, \$1.09 and Export bid item 5, 88 cents. Nov. 24, inv. 4200.

Low Baird & McGuire Bids

Baird & McGuire, Inc., Holbrook, Mass., submitted the following low bids on 41,082 containers of cresol disinfectant in a recent opening for miscellaneous supplies by the Quartermaster, Philadelphia. Items 1a, 1c, 1d, 1g, 6.8 cents domestic, 7.5 cents export; item 1b, 6.8 cents domestic; item 1e, 8 cents domestic; item 1f, 6.8 cents domestic. Dec. 27, inv. 310.

FSS Aerosol Awards

Bostwick Laboratories, Inc., Bridgeport, Conn., and Airosol Co., Neodesha, Kans., both received awards on aerosol bombs in a recent opening for miscellaneous supplies by the Federal Supply Service, Atlanta, Ga. Bostwick's bid was item 1, 48 cents, and Airosol's bids were items a, b, c, 49.2 cents. Dec. 20, inv. 24183.

Low Octagon Process Bids

In a recent opening for miscellaneous supplies by the General Stores Supply Office, Philadelphia, Octagon Process, Inc., Staten Island, N. Y., submitted the following low

bids on trichloroethylene, cleaning materials solvent cleaners: item 1a, \$1.678; item 1b, \$1.948; item 1c, \$1.724; item 1d, \$1.914 & \$1.737 (for minimum award of 2,000 gallons). Jan. 4, inv. (1) 635.

Cleaning Comp. Award

Dubois Co., Cincinnati, won the award on 10,500 pounds of cleaning compound with the low bid of 11 cents in a recent opening for miscellaneous supplies by the Air Force, Tinker Air Force Depot, Okla. Dec. 20, inv. 164.

National, Stahl Low Bids

National Chemical Laboratories, Philadelphia and Stahl Soap Corp., Brooklyn, both submitted low bids on soap in a recent opening for miscellaneous supplies by the Federal Supply Service, Washington, D. C. National bid 8.7 cents on item 1, 19,000 pounds soap paste, and Stahl bid 16.52 cents on item 2, 12,270 pounds soap. Jan. 18, inv. 2B-5550-R.

Pacific Coast Borax Award

In a recent opening for miscellaneous supplies by the Federal Supply Service, Denver, the award on soap and borax went to Pacific Coast Borax Co., Los Angeles, with the following low bids: item 1, 3,000 cartons, 50.25 cents; item 2, 4,200 cartons, 34.55 cents; fob shipping point, Wilmington, Calif. No award made for fob destination. Dec. 29, inv. 6226.

Low Cleaning Comp. Bids

In a recent opening for miscellaneous supplies by the Raritan Arsenal, Metuchen, N. J., the following low bids on cleaning compound were submitted: Turco Products Co., Los Angeles, item 1, 65 cents, items 6 and 7, 60 cents; Continental Chemical Co., N. Sacramento, Calif., item 2, 54.5 cents, item 4, 77 cents; Octagon Process, Staten Island, N. Y., item 3, 57.45 cents; Industrial Products Mfg. Co.,

N. Kansas City, Mo. item 5, 76 cents. Jan. 24, inv. 176.

Newport Soap Award

In a recent opening for miscellaneous supplies by the Federal Supply Service, San Francisco, the award on soap went to Newport Soap Co., Oakland, Calif., with the following low bids: item 1a, 2,400 pounds, 9.38 cents; item 1b, 6,200 pounds, 9.66 cents; item 2, 6,432 pounds soap powder, six cents. Jan. 13, inv. SF-4382.

Low FSS Soap Bid

Newport Soap Co., Oakland, Calif., submitted the low bids of 8.94 cents, item a, and 9.34 cents, item b on soap chips in a recent opening for miscellaneous supplies by the Federal Supply Service, San Francisco. Jan. 13, inv. 4132.

Stain Remover Award

Washington Chemical Sales, Washington, D. C., received the award on stain remover with the low bid of 24 cents in a recent opening for miscellaneous supplies by the Federal Supply Service, Kansas City, Mo. Dec. 22, inv. KC-36596.

Stahl Soap Award

Stahl Soap Corp., Brooklyn, received the award on toilet soap in a recent opening for miscellaneous supplies by the Federal Supply Service, Kansas City, Mo. Dec. 27, inv. KC-36347.

Denver Cleaner Award

Denver Packaging Co., Denver, Colo., received the award on glass cleaner with the low bid of 65 cents, fob destination, in a recent opening for miscellaneous supplies by the Federal Supply Service, Denver. Dec. 10, inv. 4196.

Advanced by Colgate Ltd.

L. C. Hunt has been appointed general sales manager of Colgate-Palmolive Ltd., Toronto, Ont., it was announced recently by C. G. Grace, president. Mr. Hunt joined the firm in 1937.



Deodorants with **G-11**[®] (Brand of Hexachlorophene) remove the cause of body odor

Soaps, detergents, creams, colognes, sticks and lotions containing G-11 are making dramatic sales increases because they combat the fundamental cause of body odor.

Body odor, particularly underarm odor, is caused by the action of skin bacteria on perspiration. Research has shown fresh perspiration to be odorless until it is contaminated with skin bacteria. G-11 combats these bacteria and thus removes the basic cause of the odor.

G-11 remains on the skin, even from soaps which are thoroughly rinsed off with water. Thus the deodorant action

persists for days. Persons who have used deodorants with G-11 for three and four years show no immunity to their action.

Over seventy scientific articles, mostly by independent researchers, have been published over the last ten years attesting to the antibacterial and deodorant performance of G-11.

In addition, G-11 is not perceptible while on the skin, has no harmful effect on clothing, is compatible with perfumes, is readily soluble in soaps and cosmetic formulations, and is non-staining and non-irritating.

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NEW Trade Marks

THE following trade marks were published in recent issues of the *Official Gazette* of the U. S. Patent Office in compliance with section 12(a) of the Trade Mark Act of 1946. Notice of opposition under section 13 may be filed within 30 days of publication in the *Gazette*. See rules 20.1 to 20.5. As provided by section 31 of the Act, a fee of \$25 must accompany notice of opposition.

Shoe-Fresh — This for fungicide, bactericide, and deodorant for application to the interior surfaces of shoes. Filed Nov. 21, 1952 by Shoe-Fresh Co., Chicago. Claims use since Feb. 5, 1952.

Hibitin — This for ingredient of laundry bleach disinfectant. Filed March 4, 1953 by Hood Chemical Co., Ardmore, Pa. Claims use since Sept. 15, 1952.

Paraland, Economee — These for anti-freeze. Both filed July 3, 1953 by Phillips Petroleum Co., Bartlesville, Okla. Claims use on both since May 21, 1953.

Penbrite — This for heavy duty alkali sold to the laundry trade and used primarily as a soap builder. Filed June 8, 1954 by Pennsylvania Salt Mfg. Co., Philadelphia. Claims use since July 26, 1949.

Wed — This for toilet soap. Filed Sept. 29, 1953 by Colgate-Palmolive Co., Jersey City, N. J. Claims use since June 22, 1953.

Lad 'n' Lassie — This for shampoo concentrate. Filed Oct. 1, 1953 by Harold P. Johnson, doing business as Lad 'n' Lassie Distributors, Baltimore, Md. Claims use since April 14, 1953.

oven off — This for oven cleaning preparation. Filed Jan. 25, 1954 by Rite Products Co., San Lorenzo, Calif. Claims use since Feb. 15, 1953.

Depos-Off — This for preparation for removing lime scale from stainless steel, chrome, glass, and porcelain. Filed May 3, 1954 by Sam A. Pactor, doing business as Sam Pactor Products, Indianapolis. Claims use since March 29, 1954.

Hose-Mix't — This for insecticides and fungicides. Filed June 9, 1954 by International Research Corp., Danbury, Conn. Claims use since May 1, 1954.

Amprol — This for petroleum waxes. Filed Feb. 19, 1954 by Atlantic Refining Co., Philadelphia. Claims use since Oct. 30, 1943.

Vixen Super-Dip — This for silver cleaner. Filed March 9, 1953 by Vixen Chemical Corp., Dunellen, N. J. Claims use since Dec. 3, 1952.

Fog off — This for glass cleaner in the form of a sponge rubber pad containing liquid hand soap. Filed Sept. 11, 1953 by Clarence Knutson, Pingree, N. D. Claims use since Dec. 15, 1952.

Sanimat — This for rubber floor

mat for use with disinfectant solution to disinfect and clean soles of shoes. Filed June 8, 1953 by American Scientific Laboratories, Inc., Madison, Wis. Claims use since April 21, 1953.

Brillets — This for miniature soap impregnated steel wool scouring pads. Filed Oct. 2, 1953 by Brillo Mfg. Co., Brooklyn, N. Y. Claims use since Aug. 8, 1953.

Suffokato — This for insecticide for fumigating grains. Filed Jan. 25, 1954 by Douglas Chemical Co., Inc., North Kansas City, Mo. Claims use since January 1953.

Gentclien — This for powdered hand soap. Filed March 1, 1951 by Lien Chemical Co., Franklin Park, Ill. Claims use since Nov. 1, 1948.

Launderscent — This for scented detergent. Filed Aug. 17, 1953 by Anne Sampson, doing business as Launderscent Co., Miami Beach, Fla. Claims use since June 15, 1953.

Radikol — This for liquid radiator cleaning compound. Filed Sept. 25, 1953 by L. B. Dunn, Fort Worth, Tex., to Radikol Corp., Altoona, Pa. Claims use since Sept. 1, 1951.

Imperial Leather — This for toilet soap. Filed April 29, 1954 by Cussons, Sons & Co., Ltd., Manchester, England. Claims use since Aug. 31, 1939.

Distillo — This for water softeners of the ion-exchange type. Filed April 10, 1953 by Chemicals for Agriculture, Inc., Washington, D.C. Claims use since Oct. 10, 1952.

Moonlight Mist — This for foam bath. Filed Feb. 4, 1954 by H. R. Laboratories, Inc., New York. Claims use since on or about 1944.

Alka-Deox — This for composition for electrolytic and nonelectrolytic removal of rust from metal articles. Filed March 9, 1953 by Enthone, Inc., New Haven, Conn. Claims use since on or about Feb. 23, 1953.

Power-Pak — This for detergent composition primarily adapted for use in dry-cleaning systems. Filed Oct. 16, 1953 by Pennsylvania Salt Mfg. Co., Philadelphia. Claims use since Feb. 11, 1953.

Lavatabs — This for cleaning, deodorizing, and disinfecting composition in tablet form for use in the flush tanks and bowls of toilets. Filed Nov. 19, 1953 by Wolcott Co., changed to Wolco Products, Inc., Hartford, Conn. Claims use since Nov. 9, 1953.

Kormon Water — This for bleach for use as a cleaning fluid. Filed Nov. 30, 1953 by Valerien D. Dupuis, doing business as Kormon Water Co., Fall River, Mass. Claims use since 1904.

Vim — This for cleansing, polishing or scouring preparation in powder form and detergent for general washing and cleansing. Filed June 9, 1954 by Lever Brothers Co., New York. Claims use since May 1904.

Dash — This for soluble cleaner, cleanser, and detergent. Filed June 11, 1954 by Procter & Gamble Co., Cincinnati. Claims use since Sept. 10, 1929.

Sonneborn Traces History

L. Sonneborn Sons, Inc., New York, recently published a 35-page brochure entitled "Much More Than Meets the Eye," which traces the firm's history and the development of its products in effective words and beautiful pictures. The Sonneborn story begins in 1903 with the purchase of the Dougherty refinery in Petrolia, Pa., by Dr. Rudolf Sonneborn and Siegmund B. Sonneborn. At the time of purchase the refinery was engaged exclusively in the production of petroleum. Soon two new product lines were added: lubricants for the then young automobile industry and white mineral oils for the pharmaceutical industry. Microcrystalline waxes of high flexibility and petroleum sulfonates were introduced to Petrolia more recently.

Most of the products made at the firm's three plants in Petrolia and Franklin, Pa., and in Nutley, N.J., are industrial auxiliaries and specialties. Mahogany soap, for instance, which is a secondary product of white oil refining, is upgraded and purified, and made into a finished petroleum sulfonate for use in the compounding of emulsions, detergents, and other consumer and industrial specialties. A line of water-soluble detergents known under the trade name "Whistclean" is distributed to various industries for maintenance of buildings and equipment.

Affiliates with Artisan

Arne R. Gudheim has incorporated and affiliated his consulting and process equipment business operated as Kontro Co., Petersham, Mass., with Artisan Metal Products, Inc., Waltham, Mass., it was announced last month. Laboratory facilities will be maintained in both Petersham and Waltham.

Changes Firm Name

National Allied Suppliers is the new name adopted last month by the firm previously known as National Supply Co. The concern is located at 1289 Queen St., West, Toronto, Ont., Canada.

spotlight on
**rancidity in
oleic acids**

how *Emersol Oleic Acid*
eliminated rancidity
in dry cleaning soaps

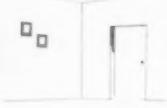
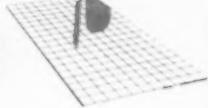
If rancidity in your product is objectionable, then you may profit from this actual experience: *Case History No. 35-54 . . . To reduce complaints of odor in cleaned clothes, this well-known manufacturer of dry-cleaning soaps evaluated the resistance to rancidity of all available high-quality oleic acids. His tests proved conclusively that Emersol 233 LL Elaine gave his product maximum resistance to rancidity . . . far better than any other oleic acid tested. In this case, not only were "odor" complaints reduced substantially, but an important sales advantage was gained over competitive dry cleaning soaps.* Likewise, the substitution of Emersol 233 LL Elaine for the double-distilled oleic acid in your formulation will give your product maximum resistance to rancidity during storage and use. This, coupled with Emersol 233's outstanding color stability and oxidation stability, will make your products more appealing, stay appealing longer, easier to sell. So . . . buy Emersol 233 LL Elaine when you need the best in oleic acid.



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 you'll get  better results with

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Sulframin HD Beads handle all sorts of cleaning jobs . . . and handle them more efficiently and more economically than any other detergent on the market. In an institution, for instance, Sulframin HD Beads can be used for cleaning floors, walls, and windows, as well as for laundry and dishwashing. And, of course, that's just as true for restaurants, hotels and recreation centers.

The reason for the superiority of HD Beads is simple. HD Beads are an alkyl aryl sulfonate in spray-dried form, blended with complex phosphates to assure maximum wetting and detergency even in hard water. HD Beads give mountains of soap-like suds, provide free rinsing and instant solubility.



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E. F. Schulte, president, Etsol Synthetic Products, suppliers of metal-cleaning compounds for industry, believes Wyandotte Pluronics to be among the finest wetting agents they have used to date.

Pluronics insure better wetting . . . control foam in metal-cleaning compounds!

—Etsol Synthetic Products, Detroit, Mich.

Since 1936, Etsol Synthetic Products, Detroit, Mich., has been a leading supplier of metal-cleaning compounds to the automotive, electrical, and other heavy industries.

This progressive company has met the challenge for better cleaning at lower total cost by using the newest, most efficient ingredients on the market in its products. Among these new ingredients are the Pluronics*, Wyandotte's new series of nonionic surfactants. Edwin F. Schulte, president of Etsol Synthetic Products, says of Pluronics: "We have used many products as wetting agents. In our experience, the Pluronics are better than any of the others we have tried. It is amazing how much we accomplish with such a small amount of Pluronics. In our metal-

cleaning compounds, Pluronics' unique combination of properties has proved ideal: Pluronics act both as a detergent and anti-foaming agent, eliminating the need for a separate anti-foaming agent. Even in small amounts, the Pluronics adequately and permanently dedust our powdered metal-cleaning products.

"In high-speed washers in the automotive industry, for instance, a wetting agent is required, but, with all the motion, there's usually a lot of foam. The Pluronics in our compound control the foam, provide improved rinsability, good detergency and better wetting. What more could we ask?"

Have you evaluated the Pluronics thoroughly? Their unique

and different properties have already established them in water conditioning, in dishwashing, in laundry compounds, in soaps, as well as in metal-cleaning and -cutting compounds. Write for further data and samples. *Wyandotte Chemicals Corporation, Wyandotte, Michigan. Offices in principal cities.*

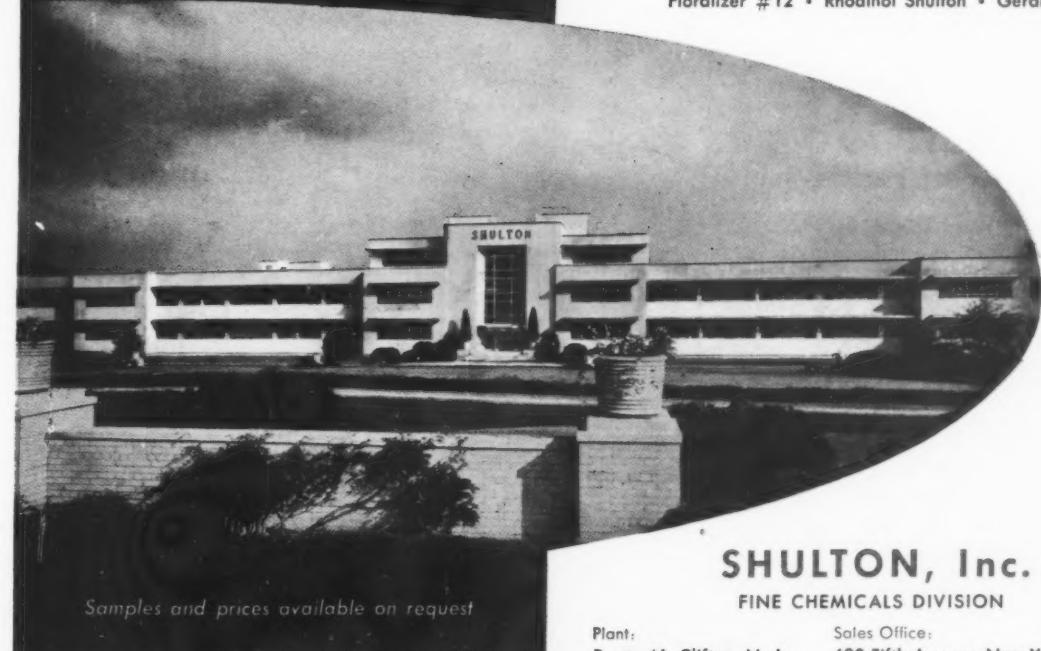
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Lignyl Acetate sets a new quality and economy standard for Linalyl Acetate notes

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- Made from domestic raw materials. Constant in price, quality and availability.
- Lignyl Acetate has a fresh, clean note, is compatible with perfume materials, resistant to alkalis, stable in soap.
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Lignyl Acetate is another successful product resulting from our extensive chemical research program. Among others now available are:

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kind of soaps, reduce the time between mills and wrappers,
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Manufacturers of Soap Making Equipment Since 1840
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Liquid filling equipment

AMONG the chemical specialties requiring liquid filling are such products as liquid soaps, liquid detergents, shampoos, furniture polish, bleaching compounds, household ammonia, shoe polish, anti-freeze, brake fluids, household insecticides, protective hand lotions, liquid laundry starch, deodorants, paint brush cleaners, floor finishes, cesspool cleaners, automotive polishes, glass cleaners, moth products, after-shave lotions, spot removers, antiseptic products, disinfectants and germicides, liquid rodenticides, radiator flushing compounds, soil conditioners, weed killers, tarnish removers, tire cleaners, bubble bath, carpet and upholstery cleaners, floor sealers, metal cleaners, mildew compounds, various types of aerosol products and others.

The liquid filling machine used most commonly today is the vacuum type filler. This is available either in straight-line or rotary type. In straight line filling, the bottles move along until they are centered under the filling spouts. They then stop while the spouts are lowered and the containers are filled. In the rotary type filler, the containers are fed on a revolving turntable and while they are on this table, the filling spouts are lowered. The containers continue to move while they are being filled.

During the operation of the vacuum-type filler, the filling spout is lowered to the container to be filled. Since the air must be exhausted from the container, a vacuum pump draws off the air at the same time as the product fills the container. When the container is full, the vacuum draws off any excess product and returns it to the storage container. This type of ma-

chine is designed for products from water-like to paste-like viscosity.

By means of metering devices, these machines can be changed to volumetric machines which allow only a specific amount of the product to enter the container—exactly a pint or quart, etc.—instead of filling the container to capacity.

Another kind of liquid filling machine is the gravity feed type. With gravity units the product to be filled is held in a storage tank above the containers and allowed to flow by gravity into the container. The air is exhausted by means of a vent usually located in the filling head. Where viscous liquids are being filled the storage tank may be sealed and air pumped into it to force the product to flow. Gravity fillers are most suited for such foaming products as shampoos or emulsions, such as water emulsion type floor waxes, in which the emulsion might be broken.

Also used for extremely accurate measuring or for very viscous liquids is the piston type filler.

THIS is the first of a series of articles discussing types of machinery and equipment used in the manufacture, processing and packaging of soaps, detergents, and such chemical specialties as floor waxes, disinfectants, household and industrial insecticides, spot removers, deodorants, floor cleaners, polishes, laundry bleaches, moth specialties, rodenticides, shave products, sweeping compounds, tooth pastes and powders, glass cleaners, dish washing compounds, etc. The main purpose of this series is to present the latest types of machines and equipment available to the soap, detergent and chemical specialties manufacturer in his daily plant operations.

With this type unit, the product is drawn into a cylinder by a piston, the amount being governed by the draw of the piston. When the cylinder is full, the product is then forced out through another valve into the container. Precise amounts of the product may be filled by this machine as the draw of the piston can be accurately regulated. Thus, the piston filler is valuable for filling not only viscous and semi-solid products, but it is also used for extremely accurate measuring of costly materials.

In selecting a filling machine, certain properties of the material to be handled must be considered. As mentioned before, foaming can be a problem by preventing complete filling. The corrosive properties of certain household bleaches can cause difficulties: the product may attack the hose or gaskets used in the machine. Ease and thoroughness of cleaning are important factors where the same machine is used for the filling of several different products. Bumping and jostling of the containers which might mar the lithographed finish on cans or chip glass bottles is also a problem that may require study in selecting a filling device.

Capping machines are generally either rotary or straight line. They range from a portable model with a capacity of 60 caps per minute to a fully automatic machine that can apply 300 caps per minute.

Basically, all capping machines operate on the same principle. A carton of caps is placed in the supply hopper which selects the caps and drops them into a chute. A moving arm picks up a single cap and transfers it to a chuck, which applies and tightens the cap

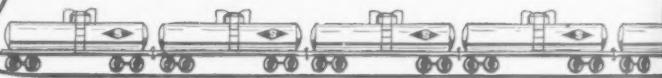
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FATTY ALCOHOL SULFATES

The new Stepan line of fatty alcohol sulfates can offer important advantages for use in a wide range of detergent formulations.

In heavy-duty detergent, bar detergent, liquid detergent, and shampoo formulations these fatty alcohol sulfates offer superior washing qualities, emolliency, and the elimination of scum and bowl rings for hard water areas. They can provide excellent detergency without excessive soaking and foam for on-the-job rug cleaners and for use in textile scouring compounds. Their superior emulsifying properties make them ideal, too, for use in skin creams or other products that are rubbed into the skin.



STEPAN FATTY ALCOHOL SULFATES . . . GENERAL SPECIFICATIONS

| | % Sodium Alkyl Sulfate | % Unsulfated Alcohols | % Sodium Sulfate | % Sodium Chloride | % Moisture | pH |
|-------------------|---------------------------|--------------------------|---------------------|----------------------|---------------|---------|
| STEPANOL M 1, M 2 | 28.0-30.0 | 1.5-3.5 | 1.0-2.5 | 0.5-1.5 | 62.5-69.0 | 7.0-8.5 |

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Stepan fatty alcohol sulfates are available for use as an important component in your present formulation or in a combination from the extensive Stepan line of fatty alcohols and synthetic detergents as a completed formulation tailored to your particular requirements.

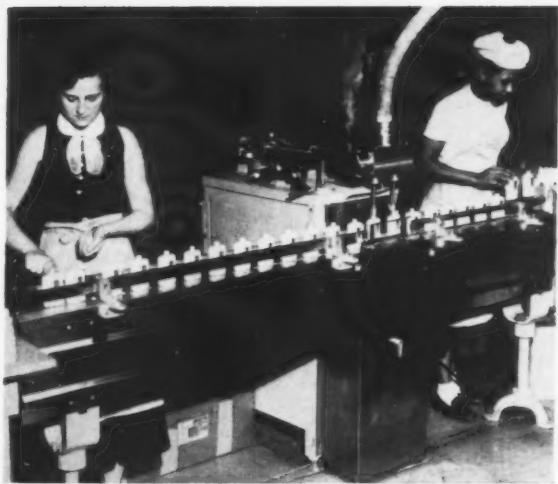
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Left: New "Simplex" filler of F. L. Burt Co. for filling polyethylene plastic squeeze bottles.

←



Right: Portable vacuum filler of Ertel Engineering Corp. for filling from two to six bottles at once.

→

on a container. The container, which travels on a conveyor belt, is held in place by a set of moving holders while the capping chuck is lowered and the cap applied. After the cap is tightened, the conveyor belt moves the container along.

The information on the various pieces of equipment illustrated and described in this article was supplied by leading manufacturers of filling machines especially adapted for use in the chemical specialties field. Only one machine of each manufacturer could be described because of space limitations. However, most of these companies make a complete line of filling and capping equipment for chemical specialties.

F. L. Burt Co., 571 7th St., San

Francisco, manufactures "Simplex" fillers,—the latest model of which is designed for filling polyethylene plastic "squeeze" bottles. The new filler is available either in a manual model, which will fill from 15 to 30 containers per minute, or a fully automatic model with conveyor which will fill from 40 to 50 containers per minute. The automatic filler also handles two, four, or eight ounce glass jars as well as the plastic bottles. The machines come equipped with cone or "U" shape hoppers, or the intake can have a direct flow-line connection.

Ertel Engineering Corp., Kingston, N. Y., makes a line of portable and straight-line vacuum fillers, filters, laboratory filters, filter paper, stainless steel pumps and mixers. Ertel's straight-line semi-automatic vacuum bottle fillers are manufactured in two sizes—the smaller unit will fill up to 60 bottles per minute, the bottles ranging in size from one to 16 ounces. The larger model fills 60 quart bottles per minute.

Bottle sizes range in height from 3 to 13 inches.

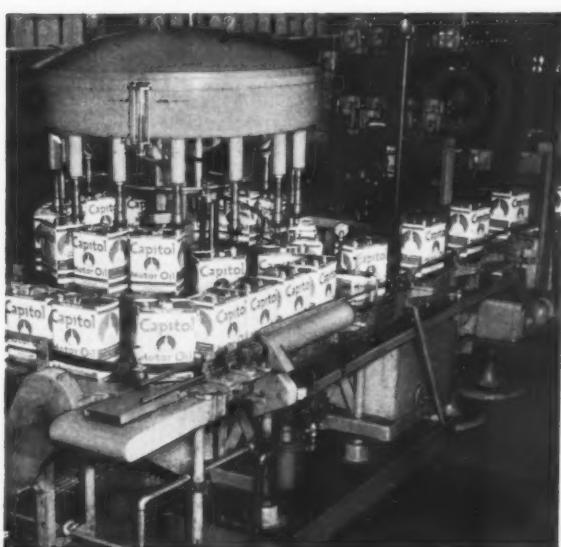
The portable vacuum filler (illustrated) will fill two to six bottles at a time, depending on the spout handle used. The two spout handle is used for bottles of one gallon capacity or larger; the three spout adjustable handle for smaller bottles, and a six spout non-adjustable handle for filling six small bottles to a uniform height. The continuous vacuum provides instantaneous flow of liquid into the bottle. This portable unit will fill all sizes and styles of bottles including shaker-types.

Horix Manufacturing Co., 2609 Chartiers Ave., Pittsburgh 4, produces fully automatic rotary, semi-automatic and hand activated gravity type filling machines. They are available in three basic sizes which can be designed to handle any shape or size container from ounces to two gallons. Horix machines can be equipped with six to 48 valve heads, depending on the size of the container and the production speed required.

Illustrated is a 14 valve rotary filler for two gallon cans. The machine can fill at the rate of approximately 25 per minute. The containers are fed onto the revolving filling table by means of a screw-type infeed. The containers are then lifted up against the valve head which starts the flow of the product. This style machine can be built with as many as 40 valves. It can also be designed to operate on the principle of gravity vacuum which eliminates loss of product by evaporation.

Karl Kiefer Machine Co., Cincinnati, is the producer of a line of straight line and rotary vacuum fillers, can filling machines, hand vacuum filler, bottle cleaners and rinsers and filters. These machines are available in either automatic or semi-automatic models.

The Kiefer line of fillers includes a two-spout hand vacuum filler; a monoscale unit to fill volumetrically a single can; a semi-automatic three-spout and six-spout filler; and fully automatic



Left: 14 valve Horix Manufacturing Co. rotary filler for two gallon cans.

MECCANICHE MODERNE

CORSO SEMPIONE, 51
ITALIA - BUSTO ARSIZIO



Continuous automatic plant type SAIX/4c/2000 for a production of 6600 lbs/hr. of "Marseille" type unfilled soap 62-63% T.F.A.

• Soap processing in closed cycle: the cooling plodder "SAIX" works without any extrusion screw, the cooling and simultaneous forming in continuous bar is carried out directly from hot liquid soap to cold bar without any harmful intermediate stage. • Manufacturing of pure laundry soaps with 62-63% T.F.A. • Filled laundry soaps with low fatty acids content until 35% or lower. • Industrial castile soaps • Laundry soaps with variegated striping. • Concentrated laundry soaps with 72-73% T.F.A. or higher. • Filled concentrated laundry soaps • Translucent or transparent concentrated laundry soaps with 72-73% T.F.A. • Concentrated toilet base. • Normalized toilet base for obtaining 80% T.F.A. toilet soap or flakes manufactured with continuous plants composed by silos, weight controllers, mixers, roll-mills, plodders, cutting and stamping machines etc. of our best production. • *Important space savings* in each plant • 100% steam saving: for pure or filled laundry soaps starting from 63% to 35% T.F.A. no steam is required but only water at room temperature for cooling and power for the soap extrusion • With a power consumption of about 20 KW it is possible to manufacture 6,600 pounds per hour of "Marseille" type laundry soap with 62-63% T.F.A.: The soap is extruded at room temperature and it is ready for packing. • Absolutely no more scraps • Possible to shut-down the plant even for days without cleaning out the SAIX plodder and without danger of damaging the soap inside. • Only one man is required to operate the plant, because both the inlet and outlet of the soap cakes in the surface hardener is completely automatic. • *Increased lathering power* of the soap regardless of the soap formulation • Transparent soaps without any filler or chemical are obtained from the cooling plodder: the

usual milling for this purpose is not necessary • There are no possibilities of varying the T.F.A. percentage in the cooling plodder: the extruded cold soap bar will maintain exactly the same T.F.A. content of the hot soap in the crutcher. • Automatic soap perfuming in the cooling plodder in semisolid stage at low temperature • Perfect distribution of builders in the soap cakes. • No more deformation of soap cakes during the storage.

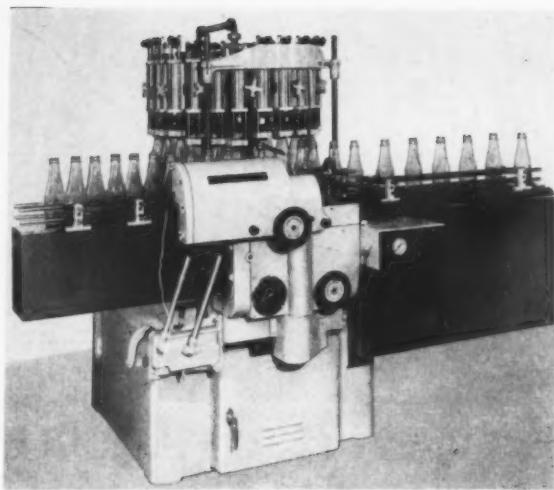
IMPORTANT !!!

- We have at your disposal the references of soap industries manufacturing their soaps with our SAIX PLANT, in Europe, Africa, Asia and America
- Please ask for literature, samples, offers, references, informations and visits to factories using our plants, without any engagement
- We can give the largest guarantees of output, quality, and of no variation of the T.F.A. percentage in the cooling plodder.

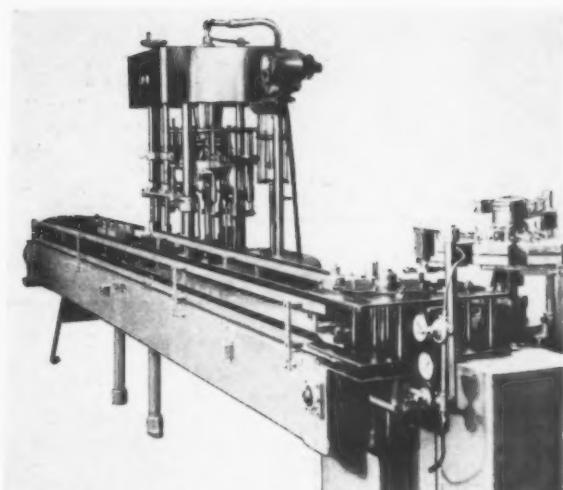
MECCANICHE MODERNE di RINO PISONI

Corso Sempione, 51 - BUSTO ARSIZIO (Italy)

Makers of soap plants and machinery; silos, weight controllers, roll-mills, mixers, plodders, cutting and stamping machines, cooling presses, continuous sulfonating plants, spray towers for powdered, granulated or as hollow beads detergents.



24 stem rotary filler of Karl Kiefer Machine Co.



MRM Co's standard automatic rotary filler.

rotary and straight-line fillers.

Illustrated is a 24 stem rotary filler. Designed to handle bottles of many shapes, it can fill polyethylene containers without danger of their collapsing. This machine works with a combination of pressure and vacuum to cause product flow at highest possible speed. The vacuum can be adjusted to fill under either high or low vacuum—low vacuum being used, for example, to prevent excessive evaporation in the filling of volatile products. This machine is made with different spout numbers for filling a variety of products.

MRM Co., 191 Berry St., Brooklyn, manufactures a line of fully and semi-automatic filling machines. The fully automatic models range from eight to 40 spouts, while semi-automatic units have from four to 12 spouts. A volumetric filling device is available for these machines. They can be used for filling glass, plastic or metal containers of all shapes, and ranging in size from $\frac{1}{8}$ ounce to one gallon.

The machine illustrated is a standard automatic rotary filler coupled with a heat sealing unit for closing plastic containers. This recently completed unit seals the bottom closure after the filling is accomplished. The plastic containers are placed in aluminum holders, fed through the filling apparatus and then, automatically, conveyed to the sealer where the bottom closure is connected to the body of the container. The finished filled container is automatically ejected from the aluminum holder, which then returns to the filling unit.

Packer Machinery Corp., 30 Irving Place, New York, manufactures a line of gravity and vacuum fillers.

Illustrated is the 14 spout straight-line semi-automatic vacuum filler, Model PVN, with an automatic filling cycle. This machine is operated by push-button control—the operator pushes a momentary contact switch which activates a

pneumatic head and timer that lowers and retracts the nozzles, filling to any level and completing the filling cycle automatically.

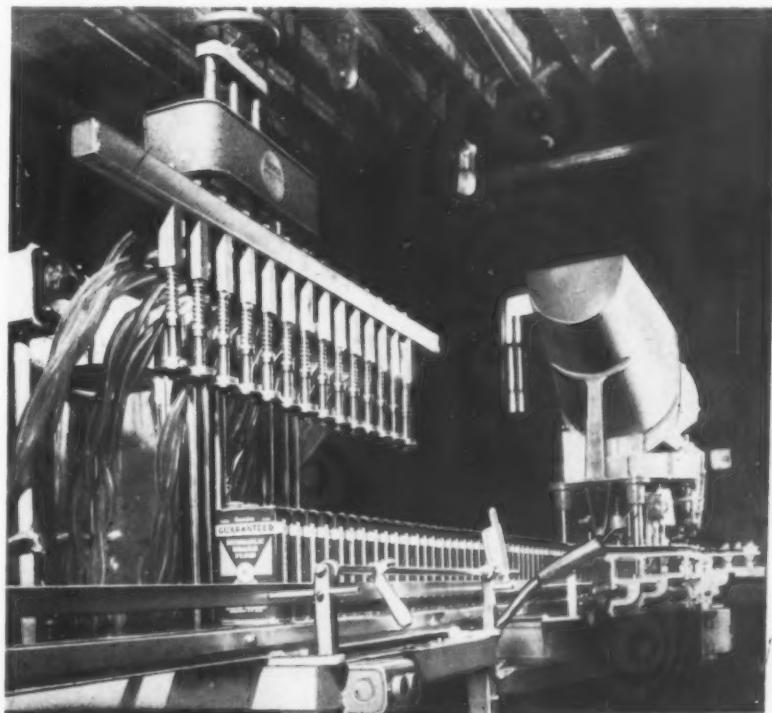
The machine has all contact parts of stainless steel, is operated by a $\frac{1}{2}$ HP motor and a 13.5 CFM pump. It also has its own nine gallon liquid control tank. The main source tank is coupled to the inlet valve of the machine's control tank and automatic overflow during filling assures an accurate uniform fill. The overflow liquid discharges back into the control tank.

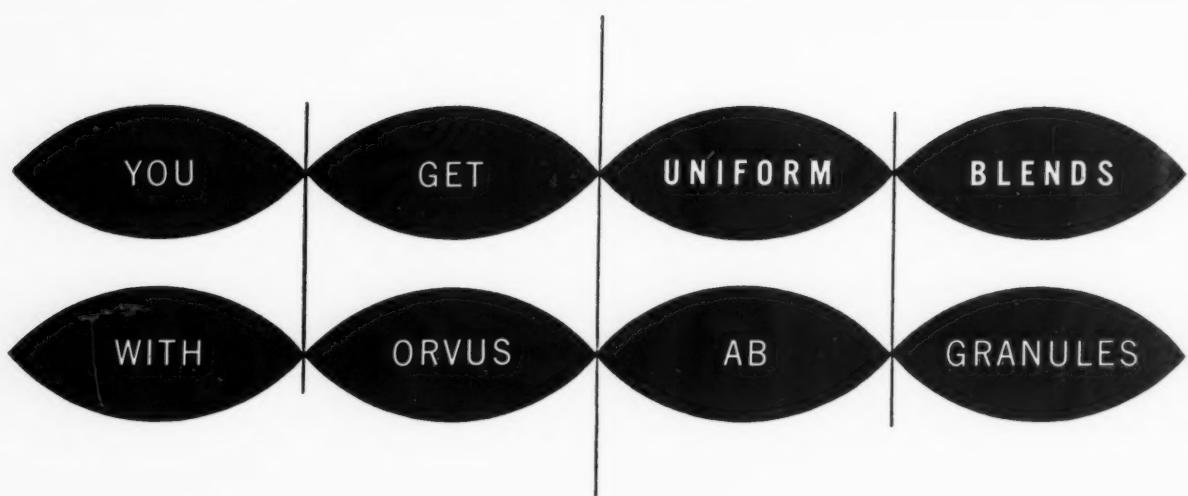
This machine is available with six, eight, 10, 12 or 14 filling spouts.

Perl Machine Manufacturing Co., 68 Jay St., Brooklyn, makes a line of bottle filling, can filling, piston filling and powder filling machines. Can filling machines are both fully and semi-automatic.

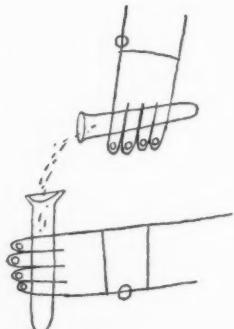
The Perl fully automatic straight line bottle and can filling machine comes in four sizes: model #100, to fill bottles of from six ounces to one quart; model #105, for bottles and cans of

14-spout straight line semi-automatic vacuum filler of Packer Machinery Corp.





- In choosing a detergent for converting purposes, one essential must be its ability to blend readily and intimately with other ingredients. Here is one of several important advantages you'll find in Orvus AB Granules.
- Orvus AB is an unusually efficient synthetic detergent of the alkyl aryl sulfonate type. A neutral "blown" product in uniform, free-flowing granular form, Orvus AB has exceptional detergent, sudsing, wetting, dispersing, and emulsifying properties.
- The surfaces of Orvus AB Granules are designed to minimize stratification, sifting or settling. You get *uniform* blends with Orvus AB Granules -- as well as freedom from gumminess.
- Inquiries regarding the application of Orvus AB Granules to your particular type of product are welcomed. The technical help and advice of our research people are at your disposal — without obligation.



Procter & Gamble

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in tank wagons and
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LAWRENCE
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in tank cars and non-
returnable steel
drums.

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tank wagons, tank cars,
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drums, & glass
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Whatever your needs as to grade and unit quantity, there's a nearby Westvaco phosphate plant ready to serve you promptly and economically. Feeding this coast-to-coast plant network are our four giant elemental Phosphorus furnaces at Pocatello, Idaho, backed by immense phosphatic rock and shale reserves.

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NEUTRONYX 600

An outstanding synthetic, non-ionic detergent, Neutronyx 600 has proven itself most effective and dependable in every application. It is far superior to soaps and possesses truly unusual cleansing and washing properties, particularly on hard surfaces.

Detergent

Emulsifier

As an emulsifying agent, Neutronyx 600 is especially useful in formulating chlordane, DDT, emulsion paints, cosmetic creams and ointments, polishing wax emulsions and pastes, and to improve dry cleaning solvents.

NEUTRONYX 600

Dispersing Agent

Whether with pigments, in combination with soaps for hard water use and in metal polishing operations, Neutronyx 600 offers extremely uniform, effective dispersion.

Neutronyx 600 is compatible with cationic and anionic surfactants, acids, alkalies, electrolytes and hard water, is chemically stable, does not deteriorate in storage and has a low volatility.

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West Coast Representative: E. S. Browning Co., San Francisco, Los Angeles

Bids and AWARDS

Awards to Airosol

Airosol Co., Neodesha, Kans., received two separate awards on insecticides with the low bids of 48.18 cents, 30,000 containers, and 49.8 cents, aerosol, in two recent openings for miscellaneous supplies by the Federal Supply Service, Dallas and Kansas City, Mo., respectively. Nov. 23, inv. 39340, and Nov. 3, inv. 36199.

FSS Herbicides Awards

Barco Chemicals, Inc., Des Moines, Ia., and Export Chemical Corp. of Colorado, Denver, both received awards on herbicides in a recent opening for miscellaneous supplies by the Federal Supply Service, Denver. Barco's bids were item 1, \$2.35, item 2, \$2.10, item 3, \$1.95, item 4, \$1.09 and Export bid item 5, 88 cents. Nov. 24, inv. 4200.

Low Baird & McGuire Bids

Baird & McGuire, Inc., Holbrook, Mass., submitted the following low bids on 41,082 containers of cresol disinfectant in a recent opening for miscellaneous supplies by the Quartermaster, Philadelphia. Items la, lc, ld, lg, 6.8 cents domestic, 7.5 cents export; item lb, 6.8 cents domestic; item le, 8 cents domestic; item lf, 6.8 cents domestic. Dec. 27, inv. 310.

FSS Aerosol Awards

Bostwick Laboratories, Inc., Bridgeport, Conn., and Airosol Co., Neodesha, Kans., both received awards on aerosol bombs in a recent opening for miscellaneous supplies by the Federal Supply Service, Atlanta, Ga. Bostwick's bid was item 1, 48 cents, and Airosol's bids were items a, b, c, 49.2 cents. Dec. 20, inv. 24183.

Low Octagon Process Bids

In a recent opening for miscellaneous supplies by the General Stores Supply Office, Philadelphia, Octagon Process, Inc., Staten Island, N. Y., submitted the following low

bids on trichloroethylene, cleaning materials solvent cleaners: item la, \$1.678; item lb, \$1.948; item lc, \$1.724; item ld, \$1.914 & \$1.737 (for minimum award of 2,000 gallons). Jan. 4, inv. (1) 635.

Cleaning Comp. Award

DuBois Co., Cincinnati, won the award on 10,500 pounds of cleaning compound with the low bid of 11 cents in a recent opening for miscellaneous supplies by the Air Force, Tinker Air Force Depot, Okla. Dec. 20, inv. 164.

National, Stahl Low Bids

National Chemical Laboratories, Philadelphia and Stahl Soap Corp., Brooklyn, both submitted low bids on soap in a recent opening for miscellaneous supplies by the Federal Supply Service, Washington, D. C. National bid 8.7 cents on item 1, 19,000 pounds soap paste, and Stahl bid 16.52 cents on item 2, 12,270 pounds soap. Jan. 18, inv. 2B-5550-R.

Pacific Coast Borax Award

In a recent opening for miscellaneous supplies by the Federal Supply Service, Denver, the award on soap and borax went to Pacific Coast Borax Co., Los Angeles, with the following low bids: item 1, 3,000 cartons, 50.25 cents; item 2, 4,200 cartons, 34.55 cents; fob shipping point, Wilmington, Calif. No award made for fob destination. Dec. 29, inv. 6226.

Low Cleaning Comp. Bids

In a recent opening for miscellaneous supplies by the Raritan Arsenal, Metuchen, N. J., the following low bids on cleaning compound were submitted: Turco Products Co., Los Angeles, item 1, 65 cents, items 6 and 7, 60 cents; Continental Chemical Co., N. Sacramento, Calif., item 2, 54.5 cents, item 4, 77 cents; Octagon Process, Staten Island, N. Y., item 3, 57.45 cents; Industrial Products Mfg. Co.,

N. Kansas City, Mo. item 5, 76 cents, Jan. 24, inv. 176.

Newport Soap Award

In a recent opening for miscellaneous supplies by the Federal Supply Service, San Francisco, the award on soap went to Newport Soap Co., Oakland, Calif., with the following low bids: item la, 2,400 pounds, 9.38 cents; item lb, 6,200 pounds, 9.66 cents; item 2, 6,432 pounds soap powder, six cents. Jan. 13, inv. SF-4382.

Low FSS Soap Bid

Newport Soap Co., Oakland, Calif., submitted the low bids of 8.94 cents, item a, and 9.34 cents, item b on soap chips in a recent opening for miscellaneous supplies by the Federal Supply Service, San Francisco. Jan. 13, inv. 4132.

Stain Remover Award

Washington Chemical Sales, Washington, D. C., received the award on stain remover with the low bid of 24 cents in a recent opening for miscellaneous supplies by the Federal Supply Service, Kansas City, Mo. Dec. 22, inv. KC-36596.

Stahl Soap Award

Stahl Soap Corp., Brooklyn, received the award on toilet soap in a recent opening for miscellaneous supplies by the Federal Supply Service, Kansas City, Mo. Dec. 27, inv. KC-36347.

Denver Cleaner Award

Denver Packaging Co., Denver, Colo., received the award on glass cleaner with the low bid of 65 cents, fob destination, in a recent opening for miscellaneous supplies by the Federal Supply Service, Denver. Dec. 10, inv. 4196.

Advanced by Colgate Ltd.

L. C. Hunt has been appointed general sales manager of Colgate-Palmolive Ltd., Toronto, Ont., it was announced recently by C. G. Grace, president. Mr. Hunt joined the firm in 1937.



Deodorants with **G-11** (Brand of Hexachlorophene) remove the cause of body odor

Soaps, detergents, creams, colognes, sticks and lotions containing G-11 are making dramatic sales increases because they combat the fundamental cause of body odor.

Body odor, particularly underarm odor, is caused by the action of skin bacteria on perspiration. Research has shown fresh perspiration to be odorless until it is contaminated with skin bacteria. G-11 combats these bacteria and thus removes the basic cause of the odor.

G-11 remains on the skin, even from soaps which are thoroughly rinsed off with water. Thus the deodorant action

persists for days. Persons who have used deodorants with G-11 for three and four years show no immunity to their action.

Over seventy scientific articles, mostly by independent researchers, have been published over the last ten years attesting to the antibacterial and deodorant performance of G-11.

In addition, G-11 is not perceptible while on the skin, has no harmful effect on clothing, is compatible with perfumes, is readily soluble in soaps and cosmetic formulations, and is non-staining and non-irritating.

Write now for technical bulletins and formulas for G-11.

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NEW Trade Marks

THE following trade marks were published in recent issues of the *Official Gazette* of the U. S. Patent Office in compliance with section 12(a) of the Trade Mark Act of 1946. Notice of opposition under section 13 may be filed within 30 days of publication in the *Gazette*. See rules 20.1 to 20.5. As provided by section 31 of the Act, a fee of \$25 must accompany notice of opposition.

Shoe-Fresh — This for fungicide, bactericide, and deodorant for application to the interior surfaces of shoes. Filed Nov. 21, 1952 by Shoe-Fresh Co., Chicago. Claims use since Feb. 5, 1952.

Hibitin — This for ingredient of laundry bleach disinfectant. Filed March 4, 1953 by Hood Chemical Co., Ardmore, Pa. Claims use since Sept. 15, 1952.

Paraland, Economee — These for anti-freeze. Both filed July 3, 1953 by Phillips Petroleum Co., Bartlesville, Okla. Claims use on both since May 21, 1953.

Penbrite — This for heavy duty alkali sold to the laundry trade and used primarily as a soap builder. Filed June 8, 1954 by Pennsylvania Salt Mfg. Co., Philadelphia. Claims use since July 26, 1949.

Wed — This for toilet soap. Filed Sept. 29, 1953 by Colgate-Palmolive Co., Jersey City, N. J. Claims use since June 22, 1953.

Lad 'n' Lassie — This for shampoo concentrate. Filed Oct. 1, 1953 by Harold P. Johnson, doing business as Lad 'n' Lassie Distributors, Baltimore, Md. Claims use since April 14, 1953.

oven off — This for oven cleaning preparation. Filed Jan. 25, 1954 by Rite Products Co., San Lorenzo, Calif. Claims use since Feb. 15, 1953.

Depos-Off — This for preparation for removing lime scale from stainless steel, chrome, glass, and porcelain. Filed May 3, 1954 by Sam A. Pactor, doing business as Sam Pactor Products, Indianapolis. Claims use since March 29, 1954.

Hose-Mix't — This for insecticides and fungicides. Filed June 9, 1954 by International Research Corp., Danbury, Conn. Claims use since May 1, 1954.

Ampron — This for petroleum waxes. Filed Feb. 19, 1954 by Atlantic Refining Co., Philadelphia. Claims use since Oct. 30, 1943.

Vixen Super-Dip — This for silver cleaner. Filed March 9, 1953 by Vixen Chemical Corp., Dunellen, N. J. Claims use since Dec. 3, 1952.

Fog off — This for glass cleaner in the form of a sponge rubber pad containing liquid hand soap. Filed Sept. 11, 1953 by Clarence Knutson, Pingree, N. D. Claims use since Dec. 15, 1952.

Sanimat — This for rubber floor

mat for use with disinfectant solution to disinfect and clean soles of shoes. Filed June 8, 1953 by American Scientific Laboratories, Inc., Madison, Wis. Claims use since April 21, 1953.

Brilletts — This for miniature soap impregnated steel wool scouring pads. Filed Oct. 2, 1953 by Brillo Mfg. Co., Brooklyn, N. Y. Claims use since Aug. 8, 1953.

Suffokato — This for insecticide for fumigating grains. Filed Jan. 25, 1954 by Douglas Chemical Co., Inc., North Kansas City, Mo. Claims use since January 1953.

Gentleclien — This for powdered hand soap. Filed March 1, 1951 by Lien Chemical Co., Franklin Park, Ill. Claims use since Nov. 1, 1948.

Launderscent — This for scented detergent. Filed Aug. 17, 1953 by Anne Sampson, doing business as Launderscent Co., Miami Beach, Fla. Claims use since June 15, 1953.

Radikol — This for liquid radiator cleaning compound. Filed Sept. 25, 1953 by L. B. Dunn, Fort Worth, Tex., to Radikol Corp., Altoona, Pa. Claims use since Sept. 1, 1951.

Imperial Leather — This for toilet soap. Filed April 29, 1954 by Cussons, Sons & Co., Ltd., Manchester, England. Claims use since Aug. 31, 1939.

Distillo — This for water softeners of the ion-exchange type. Filed April 10, 1953 by Chemicals for Agriculture, Inc., Washington, D.C. Claims use since Oct. 10, 1952.

Moonlight Mist — This for foam bath. Filed Feb. 4, 1954 by H. R. Laboratories, Inc., New York. Claims use since on or about 1944.

Alka-Deox — This for composition for electrolytic and nonelectrolytic removal of rust from metal articles. Filed March 9, 1953 by Enthone, Inc., New Haven, Conn. Claims use since on or about Feb. 23, 1953.

Power-Pak — This for detergent composition primarily adapted for use in dry-cleaning systems. Filed Oct. 16, 1953 by Pennsylvania Sait Mfg. Co., Philadelphia. Claims use since Feb. 11, 1953.

Lavatabs — This for cleaning, deodorizing, and disinfecting composition in tablet form for use in the flush tanks and bowls of toilets. Filed Nov. 19, 1953 by Wolcott Co., changed to Wolco Products, Inc., Hartford, Conn. Claims use since Nov. 9, 1953.

Kormon Water — This for bleach for use as a cleaning fluid. Filed Nov. 30, 1953 by Valerien D. Dupuis, doing business as Kormon Water Co., Fall River, Mass. Claims use since 1904.

Vim — This for cleansing, polishing or scouring preparation in powder form and detergent for general washing and cleansing. Filed June 9, 1954 by Lever Brothers Co., New York. Claims use since May 1904.

Dash — This for soluble cleaner, cleanser, and detergent. Filed June 11, 1954 by Procter & Gamble Co., Cincinnati. Claims use since Sept. 10, 1929.

Sonneborn Traces History

L. Sonneborn Sons, Inc., New York, recently published a 35-page brochure entitled "Much More Than Meets the Eye," which traces the firm's history and the development of its products in effective words and beautiful pictures. The Sonneborn story begins in 1903 with the purchase of the Dougherty refinery in Petrolia, Pa., by Dr. Rudolf Sonneborn and Siegmund B. Sonneborn. At the time of purchase the refinery was engaged exclusively in the production of petroleum. Soon two new product lines were added: lubricants for the then young automobile industry and white mineral oils for the pharmaceutical industry. Microcrystalline waxes of high flexibility and petroleum sulfonates were introduced to Petrolia more recently.

Most of the products made at the firm's three plants in Petrolia and Franklin, Pa., and in Nutley, N.J., are industrial auxiliaries and specialties. Mahogany soap, for instance, which is a secondary product of white oil refining, is upgraded and purified, and made into a finished petroleum sulfonate for use in the compounding of emulsions, detergents, and other consumer and industrial specialties. A line of water-soluble detergents known under the trade name "Whistleclean" is distributed to various industries for maintenance of buildings and equipment.

Affiliates with Artisan

Arne R. Gudheim has incorporated and affiliated his consulting and process equipment business operated as Kontro Co., Petersham, Mass., with Artisan Metal Products, Inc., Waltham, Mass., it was announced last month. Laboratory facilities will be maintained in both Petersham and Waltham.

Changes Firm Name

National Allied Suppliers is the new name adopted last month by the firm previously known as National Supply Co. The concern is located at 1289 Queen St., West, Toronto, Ont., Canada.

spotlight on
rancidity in
oleic acids

how Emersol Oleic Acid
eliminated rancidity
in dry cleaning soaps

If rancidity in your product is objectionable, then you may profit from this actual experience: *Case History No. 35-54 . . . To reduce complaints of odor in cleaned clothes, this well-known manufacturer of dry-cleaning soaps evaluated the resistance to rancidity of all available high-quality oleic acids. His tests proved conclusively that Emersol 233 LL Elaine gave his product maximum resistance to rancidity . . . far better than any other oleic acid tested. In this case, not only were "odor" complaints reduced substantially, but an important sales advantage was gained over competitive dry cleaning soaps.* Likewise, the substitution of Emersol 233 LL Elaine for the double-distilled oleic acid in your formulation will give your product maximum resistance to rancidity during storage and use. This, coupled with Emersol 233's outstanding color stability and oxidation stability, will make your products more appealing, stay appealing longer, easier to sell. So . . . buy Emersol 233 LL Elaine when you need the best in oleic acid.



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Plastolein Plasticizers
Twitchell Oils, Emulsifiers

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New York; Philadelphia; Lowell, Mass.; Chicago; San Francisco; Cleveland; Ecclestone Chemical Co., Detroit
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Whether your cleaning problem
 is windows walls floors
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 automobiles  or almost anything else,
 you'll get  better results with

SULFRAMIN*

HD BEADS

ULTRA'S ALL PURPOSE DETERGENT

Sulframin HD Beads handle all sorts of cleaning jobs . . . and handle them more efficiently and more economically than any other detergent on the market. In an institution, for instance, Sulframin HD Beads can be used for cleaning floors, walls, and windows, as well as for laundry and dishwashing. And, of course, that's just as true for restaurants, hotels and recreation centers.

The reason for the superiority of HD Beads is simple. HD Beads are an alkyl aryl sulfonate in spray-dried form, blended with complex phosphates to assure maximum wetting and detergency even in hard water. HD Beads give mountains of soap-like suds, provide free rinsing and instant solubility.

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Because HD Beads do so many cleaning jobs so well there are more sales opportunities for you . . . more chance for you to make a solid profit.

HD Beads are available in 50 pound bags, and 50, 90 and 130 pound drums. For full details, mail coupon below today.

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 P. O. Box 2150, Dept. SC-2
 Paterson, N. J.

Please send me technical data sheet,
 sample, and prices on Sulframin HD Beads.

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Dependable Source for Chemical Raw Materials



E. F. Schulte, president, Etsol Synthetic Products, suppliers of metal-cleaning compounds for industry, believes Wyandotte Pluronics to be among the finest wetting agents they have used to date.

Pluronics insure better wetting . . . control foam in metal-cleaning compounds!

—Etsol Synthetic Products, Detroit, Mich.

Since 1936, Etsol Synthetic Products, Detroit, Mich., has been a leading supplier of metal-cleaning compounds to the automotive, electrical, and other heavy industries.

This progressive company has met the challenge for better cleaning at lower total cost by using the newest, most efficient ingredients on the market in its products. Among these new ingredients are the Pluronics*, Wyandotte's new series of nonionic surfactants. Edwin F. Schulte, president of Etsol Synthetic Products, says of Pluronics: "We have used many products as wetting agents. In our experience, the Pluronics are better than any of the others we have tried. It is amazing how much we accomplish with such a small amount of Pluronics. In our metal-

cleaning compounds, Pluronics' unique combination of properties has proved ideal: Pluronics act both as a detergent and anti-foaming agent, eliminating the need for a separate anti-foaming agent. Even in small amounts, the Pluronics adequately and permanently dedust our powdered metal-cleaning products.

"In high-speed washers in the automotive industry, for instance, a wetting agent is required, but, with all the motion, there's usually a lot of foam. The Pluronics in our compound control the foam, provide improved rinsability, good detergency and better wetting. What more could we ask?"

Have you evaluated the Pluronics thoroughly? Their unique

and different properties have already established them in water conditioning, in dishwashing, in laundry compounds, in soaps, as well as in metal-cleaning and cutting compounds. Write for further data and samples. *Wyandotte Chemicals Corporation, Wyandotte, Michigan. Offices in principal cities.*

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Calcium Carbonate • Calcium Chloride • Glycols • Chlorinated
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Liquid filling equipment

AMONG the chemical specialties requiring liquid filling are such products as liquid soaps, liquid detergents, shampoos, furniture polish, bleaching compounds, household ammonia, shoe polish, anti-freeze, brake fluids, household insecticides, protective hand lotions, liquid laundry starch, deodorants, paint brush cleaners, floor finishes, cesspool cleaners, automotive polishes, glass cleaners, moth products, after-shave lotions, spot removers, antiseptic products, disinfectants and germicides, liquid rodenticides, radiator flushing compounds, soil conditioners, weed killers, tarnish removers, tire cleaners, bubble bath, carpet and upholstery cleaners, floor sealers, metal cleaners, mildew compounds, various types of aerosol products and others.

The liquid filling machine used most commonly today is the vacuum type filler. This is available either in straight-line or rotary type. In straight line filling, the bottles move along until they are centered under the filling spouts. They then stop while the spouts are lowered and the containers are filled. In the rotary type filler, the containers are fed on a revolving turntable and while they are on this table, the filling spouts are lowered. The containers continue to move while they are being filled.

During the operation of the vacuum-type filler, the filling spout is lowered to the container to be filled. Since the air must be exhausted from the container, a vacuum pump draws off the air at the same time as the product fills the container. When the container is full, the vacuum draws off any excess product and returns it to the storage container. This type of ma-

chine is designed for products from water-like to paste-like viscosity.

By means of metering devices, these machines can be changed to volumetric machines which allow only a specific amount of the product to enter the container—exactly a pint or quart, etc.—instead of filling the container to capacity.

Another kind of liquid filling machine is the gravity feed type. With gravity units the product to be filled is held in a storage tank above the containers and allowed to flow by gravity into the container. The air is exhausted by means of a vent usually located in the filling head. Where viscous liquids are being filled the storage tank may be sealed and air pumped into it to force the product to flow. Gravity fillers are most suited for such foaming products as shampoos or emulsions, such as water emulsion type floor waxes, in which the emulsion might be broken.

Also used for extremely accurate measuring or for very viscous liquids is the piston type filler.

THIS is the first of a series of articles discussing types of machinery and equipment used in the manufacture, processing and packaging of soaps, detergents, and such chemical specialties as floor waxes, disinfectants, household and industrial insecticides, spot removers, deodorants, floor cleaners, polishes, laundry bleaches, moth specialties, rodenticides, shave products, sweeping compounds, tooth pastes and powders, glass cleaners, dish washing compounds, etc. The main purpose of this series is to present the latest types of machines and equipment available to the soap, detergent and chemical specialties manufacturer in his daily plant operations.

With this type unit, the product is drawn into a cylinder by a piston, the amount being governed by the draw of the piston. When the cylinder is full, the product is then forced out through another valve into the container. Precise amounts of the product may be filled by this machine as the draw of the piston can be accurately regulated. Thus, the piston filler is valuable for filling not only viscous and semi-solid products, but it is also used for extremely accurate measuring of costly materials.

In selecting a filling machine, certain properties of the material to be handled must be considered. As mentioned before, foaming can be a problem by preventing complete filling. The corrosive properties of certain household bleaches can cause difficulties: the product may attack the hose or gaskets used in the machine. Ease and thoroughness of cleaning are important factors where the same machine is used for the filling of several different products. Bumping and jostling of the containers which might mar the lithographed finish on cans or chip glass bottles is also a problem that may require study in selecting a filling device.

Capping machines are generally either rotary or straight line. They range from a portable model with a capacity of 60 caps per minute to a fully automatic machine that can apply 300 caps per minute.

Basically, all capping machines operate on the same principle. A carton of caps is placed in the supply hopper which selects the caps and drops them into a chute. A moving arm picks up a single cap and transfers it to a chuck, which applies and tightens the cap.

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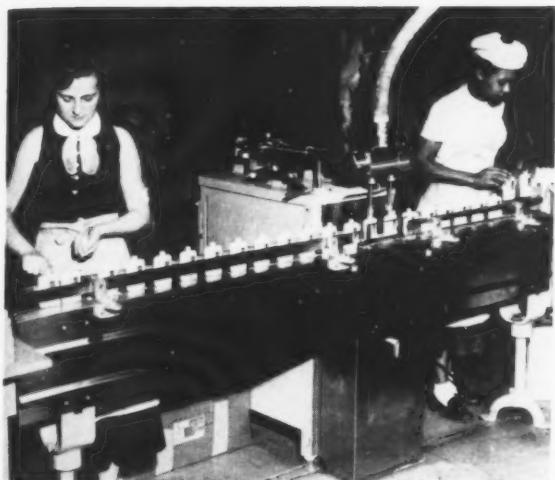
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Left: New "Simplex" filler of F. L. Burt Co. for filling polyethylene plastic squeeze bottles.

←

→

Right: Portable vacuum filler of Ertel Engineering Corp. for filling from two to six bottles at once.



Bottle sizes range in height from 3 to 13 inches.

The portable vacuum filler (illustrated) will fill two to six bottles at a time, depending on the spout handle used. The two spout handle is used for bottles of one gallon capacity or larger; the three spout adjustable handle for smaller bottles, and a six spout non-adjustable handle for filling six small bottles to a uniform height. The continuous vacuum provides instantaneous flow of liquid into the bottle. This portable unit will fill all sizes and styles of bottles including shaker-types.

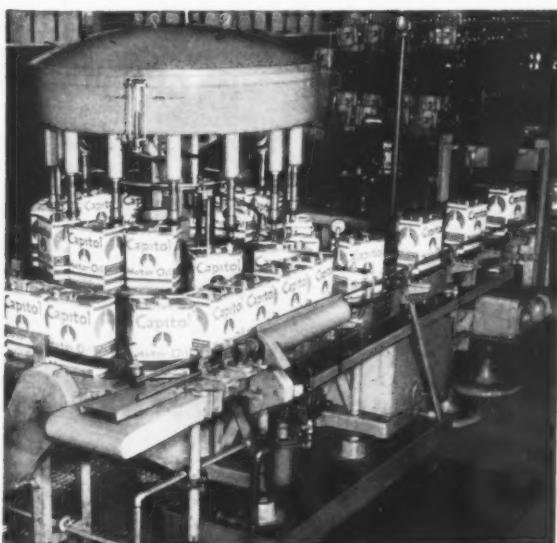
on a container. The container, which travels on a conveyor belt, is held in place by a set of moving holders while the capping chuck is lowered and the cap applied. After the cap is tightened, the conveyor belt moves the container along.

The information on the various pieces of equipment illustrated and described in this article was supplied by leading manufacturers of filling machines especially adapted for use in the chemical specialties field. Only one machine of each manufacturer could be described because of space limitations. However, most of these companies make a complete line of filling and capping equipment for chemical specialties.

F. L. Burt Co., 571 7th St., San

Francisco, manufactures "Simplex" fillers,—the latest model of which is designed for filling polyethylene plastic "squeeze" bottles. The new filler is available either in a manual model, which will fill from 15 to 30 containers per minute, or a fully automatic model with conveyor which will fill from 40 to 50 containers per minute. The automatic filler also handles two, four, or eight ounce glass jars as well as the plastic bottles. The machines come equipped with cone or "U" shape hoppers, or the intake can have a direct flow-line connection.

Ertel Engineering Corp., Kingston, N. Y., makes a line of portable and straight-line vacuum fillers, filters, laboratory filters, filter paper, stainless steel pumps and mixers. Ertel's straight-line semi-automatic vacuum bottle fillers are manufactured in two sizes—the smaller unit will fill up to 60 bottles per minute, the bottles ranging in size from one to 16 ounces. The larger model fills 60 quart bottles per minute.



Left: 14 valve Horix Manufacturing Co. rotary filler for two gallon cans.

Horix Manufacturing Co., 2609 Chartiers Ave., Pittsburgh 4, produces fully automatic rotary, semi-automatic and hand activated gravity type filling machines. They are available in three basic sizes which can be designed to handle any shape or size container from ounces to two gallons. Horix machines can be equipped with six to 48 valve heads, depending on the size of the container and the production speed required.

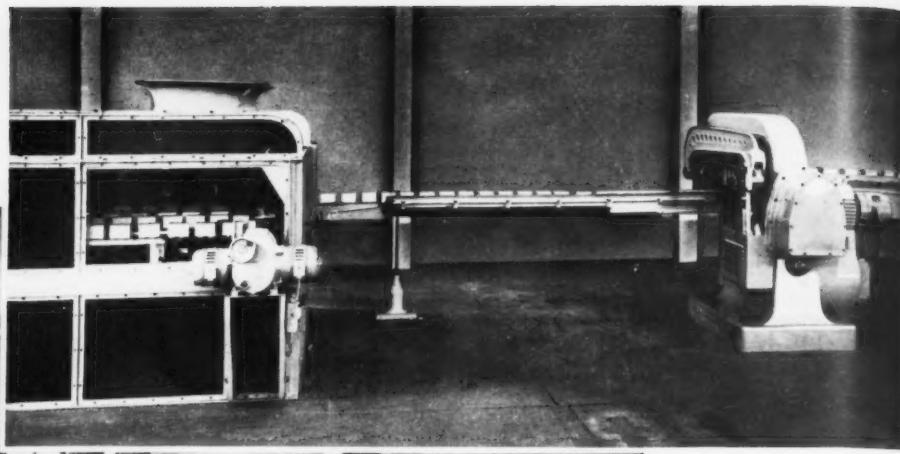
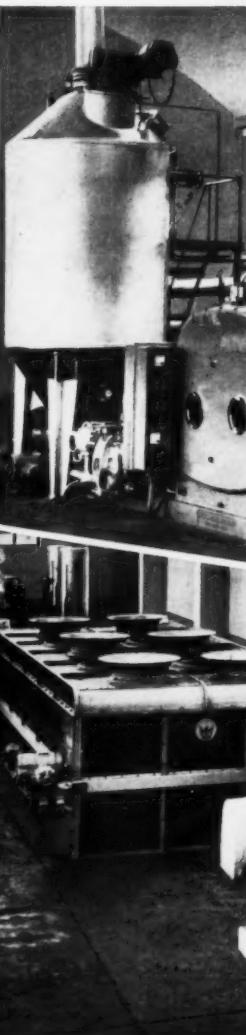
Illustrated is a 14 valve rotary filler for two gallon cans. The machine can fill at the rate of approximately 25 per minute. The containers are fed onto the revolving filling table by means of a screw-type infeed. The containers are then lifted up against the valve head which starts the flow of the product. This style machine can be built with as many as 40 valves. It can also be designed to operate on the principle of gravity vacuum which eliminates loss of product by evaporation.

Karl Kiefer Machine Co., Cincinnati, is the producer of a line of straight line and rotary vacuum fillers, can filling machines, hand vacuum filler, bottle cleaners and rinsers and filters. These machines are available in either automatic or semi-automatic models.

The Kiefer line of fillers includes a two-spout hand vacuum filler; a monoscale unit to fill volumetrically a single can; a semi-automatic three-spout and six-spout filler; and fully automatic

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Automatic feeding of soap cakes to the revolver type stamping machine.



Automatic feeding of soap cakes into the surface hardening chamber.

OUTPUT OF DIFFERENT PLANT SIZES

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990-1650 lbs/hr.

Type "SAIX/2c/1000"

1980-3300 lbs/hr.

Type "SAIX/4c/2000"

3960-6600 lbs/hr.

Continuous automatic plant type SAIX/4c/2000 for a production of 6600 lbs/hr. of "Marseille" type unfilled soap 62-63% T.F.A.

NB: The maximum output is warranted with "Marseille" type unfilled 62-63% T.F.A. soaps and with cold water.

- Soap processing in closed cycle: the cooling plodder "SAIX" works without any extrusion screw, the cooling and simultaneous forming in continuous bar is carried out directly from hot liquid soap to cold bar without any harmful intermediate stage.
- Manufacturing of pure laundry soaps with 62-63% T.F.A.
- Filled laundry soaps with low fatty acids content until 35% or lower.
- Industrial castile soaps.
- Laundry soaps with variegated striping.
- Concentrated laundry soaps with 72-73% T.F.A. or higher.
- Filled concentrated laundry soaps.
- Translucent or transparent concentrated laundry soaps with 72-73% T.F.A.
- Concentrated toilet base.
- Normalized toilet base for obtaining 80% T.F.A. toilet soap or flakes manufactured with continuous plants composed by silos, weight controllers, mixers, roll-mills, plodders, cutting and stamping machines etc. of our best production.
- Important space savings in each plant.
- 100% steam saving: for pure or filled laundry soaps starting from 63% to 35% T.F.A. no steam is required but only water at room temperature for cooling and power for the soap extrusion.
- With a power consumption of about 20 KW it is possible to manufacture 6,600 pounds per hour of "Marseille" type laundry soap with 62-63% T.F.A.: The soap is extruded at room temperature and it is ready for packing.
- Absolutely no more scraps.
- Possible to shut-down the plant even for days without cleaning out the SAIX plodder and without danger of damaging the soap inside.
- Only one man is required to operate the plant, because both the inlet and outlet of the soap cakes in the surface hardener is completely automatic.
- Increased lathering power of the soap regardless of the soap formulation.
- Transparent soaps without any filler or chemical are obtained from the cooling plodder: the

- usual milling for this purpose is not necessary.
- There are no possibilities of varying the T.F.A. percentage in the cooling plodder: the extruded cold soap bar will maintain exactly the same T.F.A. content of the hot soap in the crutcher.
- Automatic soap perfuming in the cooling plodder in semisolid stage at low temperature.
- Perfect distribution of builders in the soap cakes.
- No more deformation of soap cakes during the storage.

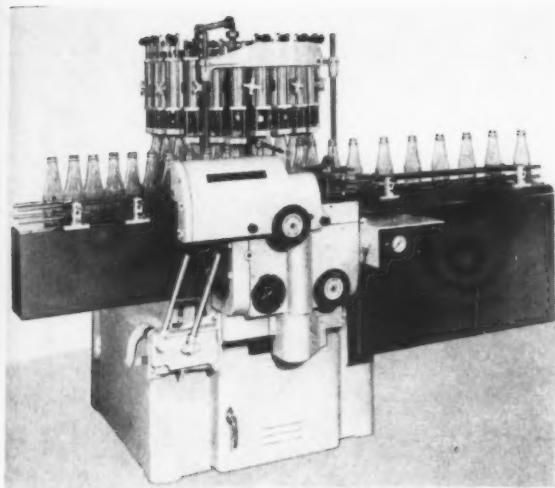
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- We have at your disposal the references of soap industries manufacturing their soaps with our SAIX PLANT, in Europe, Africa, Asia and America.
- Please ask for literature, samples, offers, references, informations and visits to factories using our plants, without any engagement.
- We can give the largest guarantees of output, quality, and of no variation of the T.F.A. percentage in the cooling plodder.

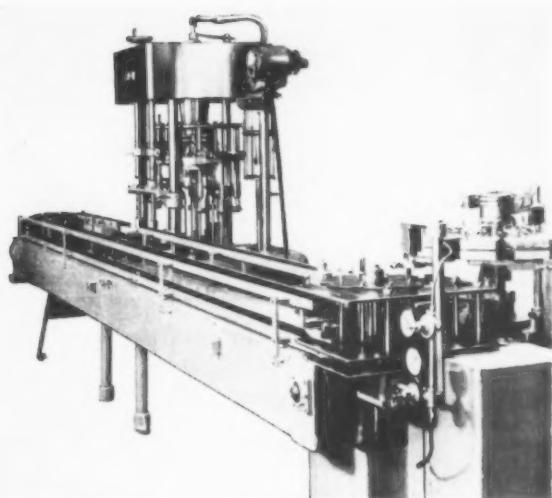
MECCANICHE MODERNE di RINO PISONI

Corso Sempione, 51 - BUSTO ARSIZIO (Italy)

Makers of soap plants and machinery; silos, weight controllers, roll-mills mixers, plodders, cutting and stamping machines, cooling presses, continuous sulfonating plants, spray towers for powdered, granulated or as hollow beads detergents.



24 stem rotary filler of Karl Kiefer Machine Co.



MRM Co's standard automatic rotary filler.

rotary and straight-line fillers.

Illustrated is a 24 stem rotary filler. Designed to handle bottles of many shapes, it can fill polyethylene containers without danger of their collapsing. This machine works with a combination of pressure and vacuum to cause product flow at highest possible speed. The vacuum can be adjusted to fill under either high or low vacuum—low vacuum being used, for example, to prevent excessive evaporation in the filling of volatile products. This machine is made with different spout numbers for filling a variety of products.

pneumatic head and timer that lowers and retracts the nozzles, filling to any level and completing the filling cycle automatically.

The machine has all contact parts of stainless steel, is operated by a $\frac{1}{2}$ HP motor and a 13.5 CFM pump. It also has its own nine gallon liquid control tank. The main source tank is coupled to the inlet valve of the machine's control tank and automatic overflow during filling assures an accurate uniform fill. The overflow liquid discharges back into the control tank.

This machine is available with six, eight, 10, 12 or 14 filling spouts.

Perl Machine Manufacturing Co., 68 Jay St., Brooklyn, makes a line of bottle filling, can filling, piston filling and powder filling machines. Can filling machines are both fully and semi-automatic.

The Perl fully automatic straight line bottle and can filling machine comes in four sizes: model #100, to fill bottles of from six ounces to one quart; model #105, for bottles and cans of

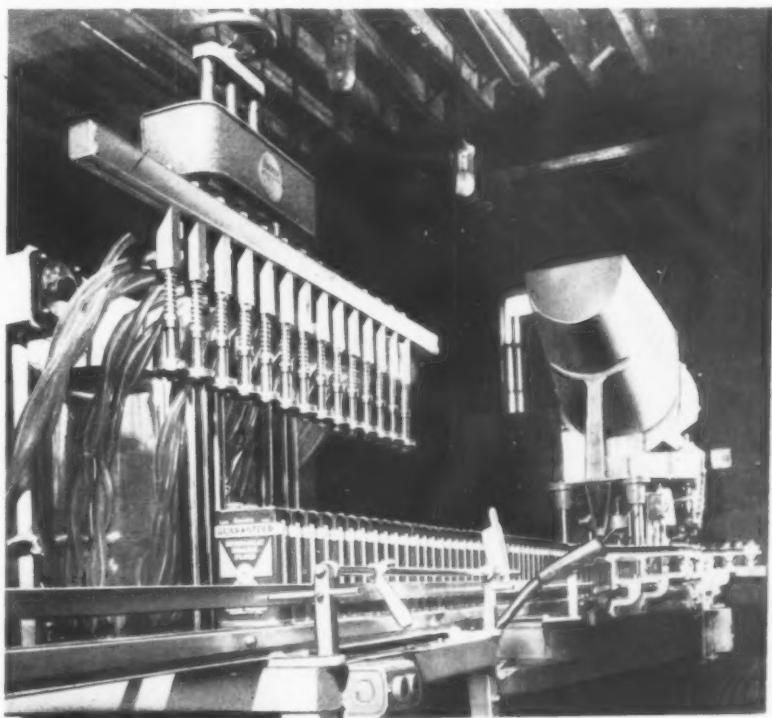
MRM Co., 191 Berry St., Brooklyn, manufactures a line of fully and semi-automatic filling machines. The fully automatic models range from eight to 40 spouts, while semi-automatic units have from four to 12 spouts. A volumetric filling device is available for these machines. They can be used for filling glass, plastic or metal containers of all shapes, and ranging in size from $\frac{1}{8}$ ounce to one gallon.

The machine illustrated is a standard automatic rotary filler coupled with a heat sealing unit for closing plastic containers. This recently completed unit seals the bottom closure after the filling is accomplished. The plastic containers are placed in aluminum holders, fed through the filling apparatus and then, automatically, conveyed to the sealer where the bottom closure is connected to the body of the container. The finished filled container is automatically ejected from the aluminum holder, which then returns to the filling unit.

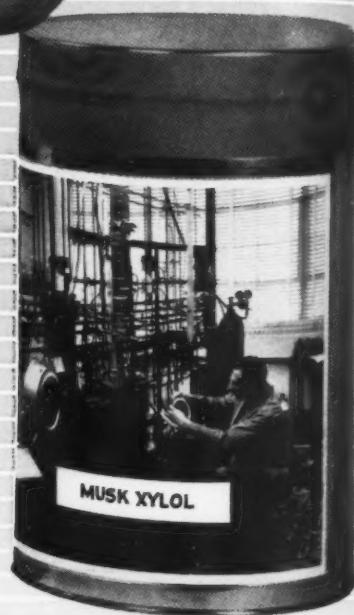
Packer Machinery Corp., 30 Irving Place, New York, manufactures a line of gravity and vacuum fillers.

Illustrated is the 14 spout straight-line semi-automatic vacuum filler, Model PVN, with an automatic filling cycle. This machine is operated by push-button control—the operator pushes a momentary contact switch which activates a

14-spout straight line semi-automatic vacuum filler of Packer Machinery Corp.



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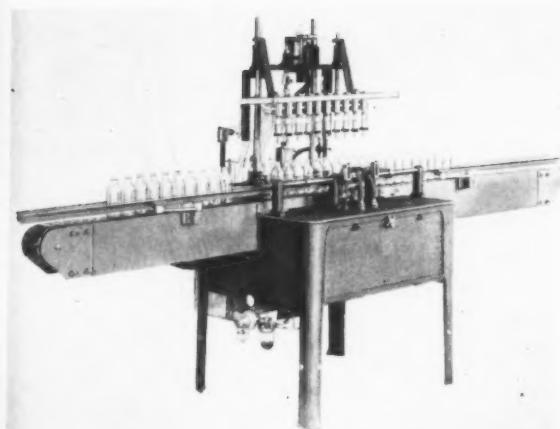
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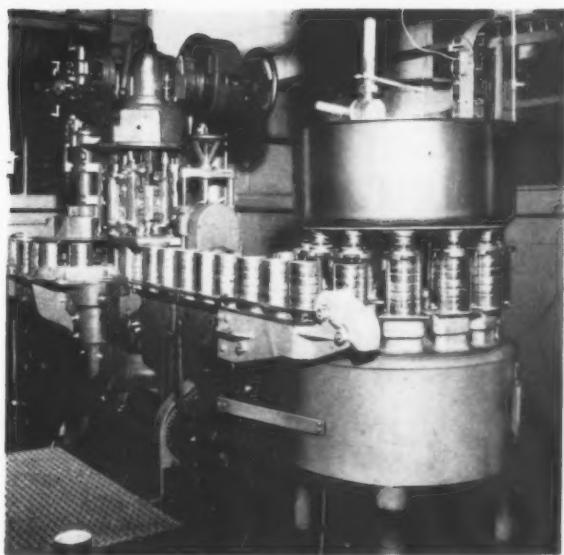
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Above: Automatic straight line bottle and can filling machine of Perl Machine Mfg. Co.



Right: 12 station rotary gravity type filler made by Pfaudler Co.

from one pint to one gallon; model #110, to fill cans and bottles from one to five gallons; and model #115, which fills bottles of from one-half ounce to six ounces.

The machines operate automatically. When the correct number of containers are in the filling position, the valves are automatically lowered into the containers. The conveyor stops during the filling operation. As soon as all containers are filled to the desired level, the valves are automatically withdrawn, and the conveyor moves the filled containers away while positioning the next group of empties under the valves.

Controls are housed in a built-in cabinet, and ample safety devices are provided.

Pfaudler Co., 1000 West St., Rochester 4, N.Y., manufactures a line of rotary, gravity type fillers for packaging free-flowing liquids in cans and jars. These machines will fill from 35 to 400 containers a minute, depending on their size, which may be as large as

one gallon. Various models have from nine to 24 filling stations.

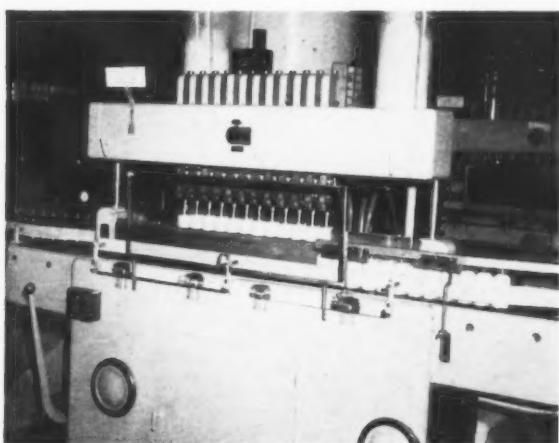
Illustrated is the 12 station machine. Containers from a chute are fed by a star wheel onto turrets. As the upper part of the machine rotates, cams lift the turrets and containers against the rubber seal of the filling head. This contact opens the valve sleeve. As the material flows into the container from the filler bowl, air escapes through a tube in the middle of the valve assembly. Flow stops automatically when product level in the container reaches the mouth of the valve sleeve. The valve is then closed as the turret drops, and containers are discharged onto a conveyor. Product level is maintained in the filler bowl by means of a float valve. Changes in container heights are made by screw adjustment. The machine can be changed for different diameter containers in a few minutes with change parts. The amount of fill at each station can be adjusted by raising or lowering the displacement plate in relation to the valve sleeve.

Pfaudler also manufactures a line

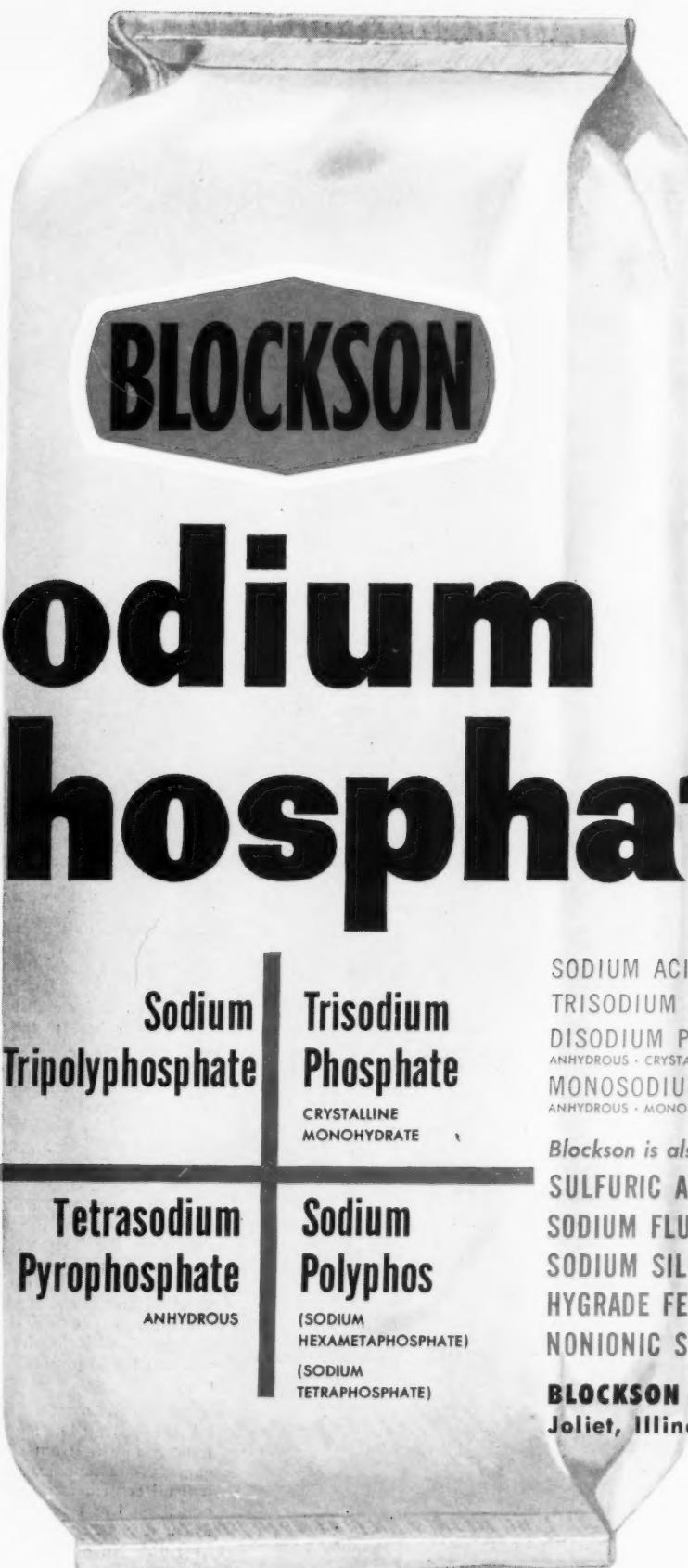
of piston filling machines. Available in five models, these machines handle from 40 to 1000 containers per minute, utilizing from six to 35 filling stations. The range of container sizes handled is one to 160 ounces. The newest Pfaudler machine is model RP-35, a 35 station filling machine which handles up to 1000 containers per minute, ranging in size up to 16 ounces. An accuracy rate of plus or minus one-tenth of an ounce is claimed for the unit.

Pneumatic Scale Corp., Quincy 71, Mass., manufactures a complete line of straight-line, rotary and gravity type filling machines. The straight-line filling equipment is both semi-automatic and completely automatic. The "Samco, Jr." model is a semi-automatic unit with six filling heads. The 28 inch lift plate provides room for additional heads. The machine fills both metal and glass containers ranging in size from one ounce to one gallon at a rate of five to 40 per minute, depending on container size, characteristics of the material and number of filling heads. A gravity filler is built on the "Samco, Jr." frame and is designed for semi-automatic production of liquid soaps and shampoos. The enlarged "Samco" vacuum filler is designed for increased speeds on larger sizes than the "Samco, Jr." This unit will handle metal or glass containers of from one ounce to one gallon. The standard unit is equipped with 11 heads, but more heads may be added. The lift plate is 42 inches long. The 11 head unit can fill 45 pint containers per minute.

The automatic "Samco" vacuum filler (illustrated) handles containers ranging in size from one ounce to one quart. With modifications, the machine will fill containers as large as $\frac{1}{2}$ gallon or as small as three drams. The standard unit has 12 filling heads, with a 50-inch lift plate that can accommodate additional heads. The 12 head unit is



Pneumatic Scale Corp's automatic "SAMCO" vacuum filler.



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Sodium
Tripolyphosphate

Trisodium
Phosphate

CRYSTALLINE
MONOHYDRATE

Tetrasodium
Pyrophosphate

ANHYDROUS

Sodium
Polyphos

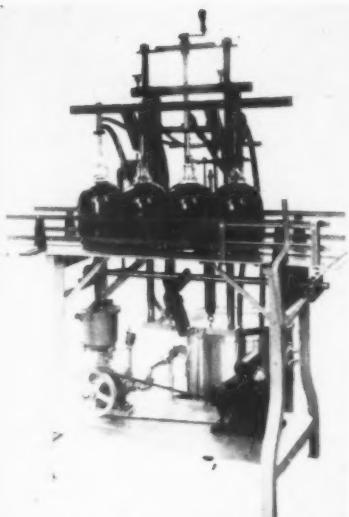
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(SODIUM
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Semi-automatic gallon and half gallon filler of Scientific Filter Co.

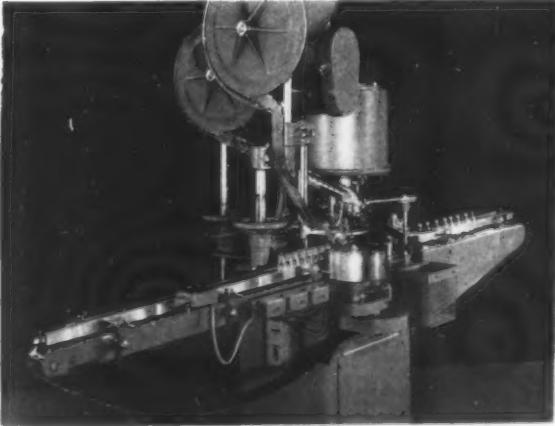
rated at 70 open-mouth pints per minute of free-flowing liquids.

The standard vacuum filler will handle bottles and metal containers ranging in size from one ounce to one quart. With special construction, standard $\frac{1}{2}$ gallon round jugs and five pound syrup jars can be handled. The lift plate is 68 inches long and the standard unit has 12 filling heads. The machine will accommodate up to 24 heads if required. It will fill up to 125 containers per minute according to size and number of heads used.

Scientific Filter Co., 59 Rose St., New York City, produces a line of straight semi-automatic vacuum filling machines. The machine illustrated fills gallon and half-gallon jugs, but can be supplied with spouts for smaller containers down to about one ounce. It will also fill cans ranging in size up to one quart.

Empty containers are moved along

Dual purpose "Capem" capping machine of Consolidated Packaging Machinery Corp.

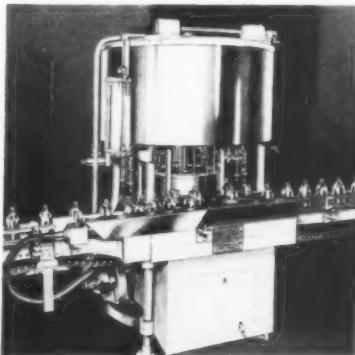


Suspension type portable capping unit of R. C. Haskins Co.

the stationary track to an adjustable stop which automatically centers them under the filling spouts. These spouts are mounted in a slotted head assembly to provide lateral adjustment for bottles of various sizes. A hand lever is pushed down to move the filling spouts into the containers which are sealed by sponge rubber gaskets on each spout. When the containers are filled to the required level, any excess liquid is withdrawn into an overflow tank at the rear. The overflow tank automatically empties into the main supply tank, which is equipped with a float valve to maintain a constant supply of liquid.

U. S. Bottlers Machinery Co., 4019 North Rockwell St., Chicago, makes a line of rotary and straight line vacuum filling machines, siphon fillers, hand fillers and other equipment.

The rotary filler (illustrated) is available in six models which differ in



One of six rotary filler types made by U. S. Bottlers Machinery Co.

size and capacity with a range of filling tubes from 15 to 33. The machine is approximately 13 feet in length and, depending on the model, ranges from 45 to 72 inches in depth. The container sizes range from a minimum of one inch in diameter to $6\frac{1}{8}$ inches and a minimum height of four inches to a maximum height of 12 inches.

Containers travel in single file on the feed conveyor into the feed star which directs them to the revolving table where they are centered under the filling tube. The filling tube lowers to contact and seal the container. As the air is automatically evacuated from the containers, atmospheric pressure forces the liquid through the filling tubes into the containers until the product reaches the vacuum vent, where the filling automatically stops. Any surplus material in the tubes returns to the overflow cylinder and back to the supply tank.

Materials to be filled are fed by gravity into the supply tank, the storage level of which is governed by a float valve. All models except NA-15 are supplied with worm feed. NA-15 comes with dial feed.

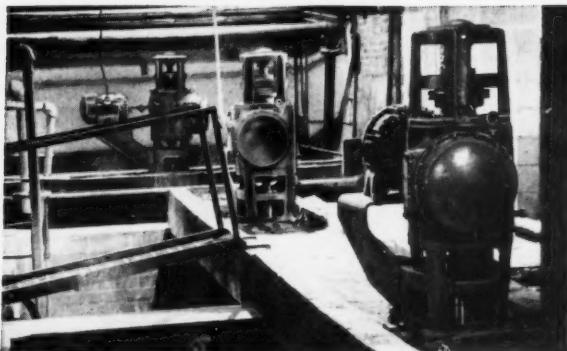
Consolidated Packaging Machinery Corp., 1400 West Ave., Buffalo, N.Y., manufactures the "Capem" line of automatic capping machines.

Illustrated is a dual purpose unit that combines two separate operations. When shaker type bottles reach the first station, a polyethylene fitment is placed over the neck finish of the bottle. After the fitment is applied, the bottle moves into the machine where a standard cap is applied at a predetermined torque. The unit features a device that prevents capping if the fitment is not applied. The machine, a two spindle unit, applies 60 caps per minute, can be designed for any speed up to 250 per minute.

Standard "Capem" machines handle large caps, but a newly designed rectifying device has been developed so that caps as large as 80 and 89 mm. can be sorted and applied at even greater rates of speed.

R. G. Haskins Co., 2651 W. Harrison St., Chicago, is the maker of a portable utility capping machine. Powered by a 1/16 HP split-phase, induction-type motor, these portable units

(Turn to Page 105)



MIX LARGE VOLUMES rapidly, thoroughly—at fully predictable rates—with turbine-type LIGHTNIN Mixers like these. Hundreds of power-speed combinations, for open or closed tanks. Sizes 1 to 500 HP.

How to choose a fluid mixer

Choose a fluid mixer that gives you:

1. The exact balance of fluid flow and fluid shear to make your process work at top efficiency.
2. Lowest possible rate of machine obsolescence—to save yourself maintenance and replacement dollars.

Here's why you get both with LIGHTNIN Mixers:

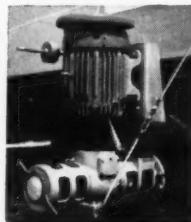
Mixing results can be predicted accurately—and scaled-up accurately—with LIGHTNIN Mixers. Every LIGHTNIN is guaranteed to give you the results you want—or your money back. This unique guarantee is based on nearly 30 years of research, and thousands of successful installations.

You get years and years of service from LIGHTNIN Mixers. Such features as ball-bearing motors, flex-protected shaft suspension, interchangeable shafts, mountings, and speeds, keep maintenance and replacement costs low. Many LIGHTNINS have been in service 20 years and more.

Get the facts now on fluid mixing that gives you these advantages without risking a penny. Call in your LIGHTNIN representative today. You'll find his name in your office copy of Thomas' Register.



MAKE A MIXING UNIT of any open tank, by adding the correct LIGHTNIN Portable Mixer. Rapid, uniform mixing with uniform power. Thirty models. Sizes $\frac{1}{2}$ to 3 HP.



BLEND, SUSPEND, DISPERSE in large tanks with a LIGHTNIN Side Entering Mixer. Cut maintenance costs, with choice of easy-to-repack stuffing box, or mechanical shaft seal that eliminates repacking entirely. Sizes 1 to 25 HP.

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**GET THESE HELPFUL FACTS
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Catalogs are packed with useful data on fluid mixing, plus full description of LIGHTNIN Mixers. No obligation. Check the catalogs you want and mail with your name and address to:

- DH-50** Laboratory Mixers
- DH-51** Explosionproof Laboratory Mixers
- B-102** Top Entering Mixer (turbine and paddle types)
- B-103** Top Entering Mixer (propeller type)
- B-104** Side Entering Mixers
- B-105** Condensed Catalog (complete line)
- B-107** Mixing Data Sheet
- B-108** Portable Mixers (electric and air driven)

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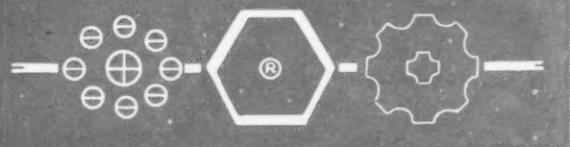
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PUBLIC RELATIONS DEPARTMENT

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SOAP and CHEMICAL SPECIALTIES

By E. G. Thomssen, Ph.D.

IN well organized companies, the production and laboratory forces work closely with the sales department. In some cases, the sales manager has a technical advisor. When the cooperation is mutually friendly and one department has full confidence in the other, the results may be very beneficial, not only in terms of better products and fewer complaints, but in increased sales volume. A profitable business is more dependent on sales volume than almost any other detail. It is of the utmost importance to production men that every effort be made to build up more and more sales.

All too often friction exists between sales and production departments. Salesmen, at times, are apt to blame unfairly a shrinkage in their sales volume upon the quality of their products or the superiority of a competitor's line. Criticisms of this kind irk the production department, especially when it is known they are not true.

What methods can be used to team up salesmen, chemists and production specialists to increase sales volume? Among those suggestions which come to mind at once are: new uses, production demonstrations, better packaging, including more activities and easier to read legends, improved product formulation and greater shelf life. Each of these, if utilized correctly, gives a salesman something constructive to talk about during his sales interviews. They arrest the attention and interest of the buyer.

Alert manufacturers are constantly seeking methods whereby the uses to which their products are put may be multiplied. It is not uncommon to receive suggestions about new applications from a user of the product. Sometimes these are far-fetched, but more often through laboratory study and re-

search, these ideas can be put to broad practical use. An incident comes to mind in which a consumer was buying sizeable quantities of a certain product recommended for external medicinal purposes. An investigation brought to light the surprising fact that the product was being used as a condiment because the user's family liked its flavor. When the laboratory was informed, it investigated some of the ingredients of the preparation as a possible new food flavor. Eventually a product was marketed as a food specialty, which incorporated the flavor of the medicinal. The product sold very widely. While such cases are rare, it is not at all infrequent that laboratories can find new applications for products if they are given the time and funds necessary to undertake such studies.

The value of demonstrating a product in action and thus dramatizing its effectiveness and possible uses cannot be overestimated as a sales tool. Nowhere is this illustrated better than in the use of television as an advertising medium. Printed advertising in newspapers and magazines serves a useful function in listing factual information about the composition, appearance, sizes and other more or

less technical data about a product. But the visual demonstration of use is far more effective. Many people watching television are more interested in and impressed by commercials that illustrate the use of the product being advertised than in the program itself. Long drawn out descriptions or singing commercials about the merit of a product, on the other hand, can be awfully boring. An effective demonstration of how a product actually performs is far more convincing and remains in our mind's eye far longer than any mere word picture of the product and its application. For this reason the laboratory man can be of help to the manufacturer by developing striking demonstrations of a particular product and its make-up and uses. Many concerns are unaware of, or ignore, the laboratory as a source of sound selling ideas.

"Quality" is a word that the salesman uses most frequently in approaching buyers. Improvement of formulas, better packaging, more striking legend and longer shelf life, all permit the use of the words "improved" or "new improved" to accentuate the quality appeal. Those manufacturers who stand still and do not cash in on these important sales appeals constantly lose ground and fall far behind their competition. A recent vivid example of this was demonstrated by some of the automobile makers in 1954.

Money spent in detailing as many men as the budget will stand, even to the point of stress, to improve products is repaid many times. The results, however, may not be dramatically sudden.

Not so long ago I visited a small chemical manufacturer who was alert enough to put two chemists to work solely on these details. They did not produce anything but mediocre results for several years. Then they hit upon a new idea. It went over big. Gradually, as time went on they incorporated some of their earlier work into the field they previously had opened. The product had become more and more com-

Dr. Thomssen



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We at Perry Brothers have solved scores of perfume puzzlers, and we'll be glad to help you with yours.



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Describe your problem in detail, and we'll send the compound best suited for your preparation. Without obligation of course.

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SPECIALY PROCESSED FOR SOAP
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Pure Wood Rosins popular among soap manufacturers for the past two decades. Always Clean, always Uniform. Production control preserves its tests prove it.

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SOAP and CHEMICAL SPECIALTIES

petitive. By constantly calling attention to the improvements, the company was able to maintain its leadership in the field and develop other products which made it grow to a good size company.

In another case a plant which was making an industrial cleanser for many years in fair volume stimulated its growth in volume within a year by the purchase of new packaging machinery. The product itself was the same but the package had been improved so as to make it far more convenient to use and it had a desirable re-use feature. The company had worked out the packaging detail over a long period of time until they produced what they wanted. Their research has paid off handsomely.

Durable shelf life is a bugaboo on which many a manufacturer stubs his toe. Too hasty promotion of a new product is most often the cause of spoilage on dealers' shelves. Far too often unsightly changes occur in liquid, paste and powder products. Insufficient attention to shelf life on the part of the laboratory is not uncommon. Sales and laboratory properly teamed up can go far in overcoming this troublesome condition. Salesmen should constantly pick up samples of goods sold and send them to their laboratories for examination. This is very helpful in studying aging and storage characteristics.

Production men hate complaints and loss of sales as much as salesmen. Coordination between the two phases of the business is necessary to lessen them.

End Point Indicator

IN the past, no suitable device has been available to indicate the end of the operating run of a hydrogen cation exchanger (hydrogen zeolite) unit. Control schemes employing continuous-recording pH meters have been unsuccessful because the changes in pH at the end of the operating runs are very minute.

A new electronic control has been developed by Permutit Co. 330 W. 42nd St., New York 36, N. Y., to take advantage of the fact that,

as the downflow hydrogen zeolite ion exchanger approaches exhaustion, the hydrogen concentration of the effluent has a higher conductivity than that of the upstream sample. Called the "Enditrol," the unit determines the end points of the ion exchange run simply by comparing the conductivities of the upstream sample and the effluent.

Equipped with proper electrical controls, this device can also be used for automatically initiating the operation of existing automatic regeneration equipment. Operation of such units could be made entirely automatic and would eliminate the dangers of over-running and the chemical and water wastages caused by under-running. "Enditrol" may also be equipped with a relay so that it can signal the end of the operating run by an alarm bell or light arrangement.

In operation, a continuous flow of water is drawn from the upstream tap and comparison of this tap water with the effluent results in a ratio that is constant until the resins approach exhaustion. The decrease in acidity moves downward during the run and when it reaches the tap, the ratio suddenly changes. This change in ratio signals the end of the run.

This control device is equally applicable to anion exchangers used for silica removal where the anions are taken up in a preferential manner by the ion exchanger bed.

Titanium Foil

TITANIUM foil rolled to very close tolerances and thin gauges is completely described in free technical data bulletin #100 issued recently by American Silver Co., Flushing, N. Y. The bulletin describes commercially pure titanium foil now being produced on Sendzimir mill equipment. It includes mill limits, a tolerance chart, composition of commercially pure grade titanium foil, mechanical and electrical properties.

The bulletin also provides data on welding, brazing, annealing and forming of titanium foil, and a list of suggested applications to

chemical, aircraft, electrical and electronics industries. The bulletin is available by writing to American Silver Company, 39-07 Prince Street, Flushing, N. Y.

Proportioning Systems

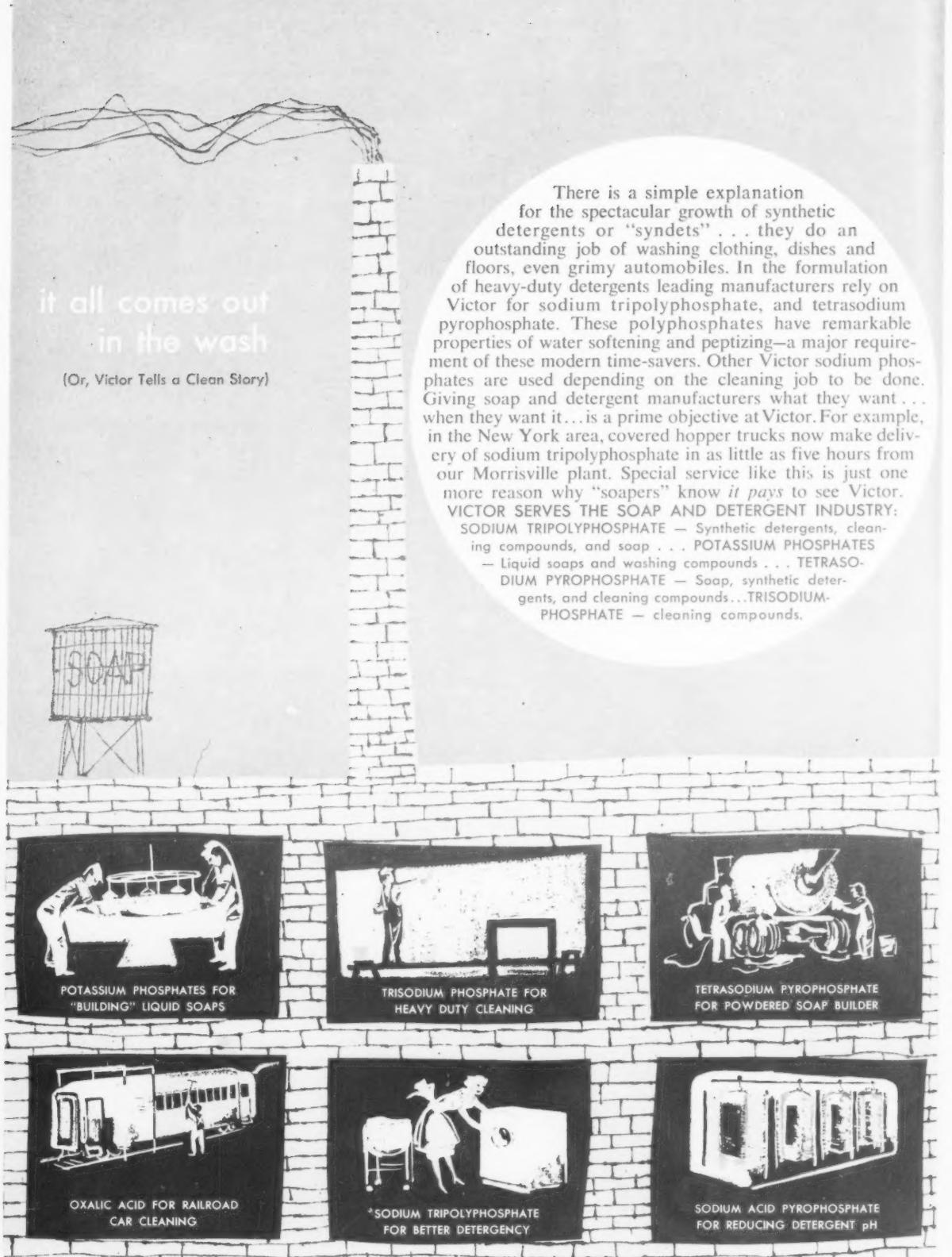
PROPORTIONEERS, Inc., Division of B-I-F Industries, Inc., Providence, R. I., has reprinted an article on "Continuous Gravimetric Proportioning Systems" in the form of an applications bulletin. This bulletin carries photographs, diagrams, flowgrams and includes chapters on "Considerations," "Which System to Use," "Loss-In-Weight Proportioning Systems," "Proportioning Multiple Liquids," "Belt-Type Gravimetric Feeders," "Belt-Type Feeders with Pneumatic Load Cells," and "Electronic Load Cells." Copies are available upon written request.

Stainless Steel Piping

DATA of interest and value to engineers and designers associated with problems involving stainless piping are included in a bulletin recently published by the Tubular Products Division of Babcock & Wilcox Co., Beaver Falls, Pa. This informative bulletin outlines methods of bending and joining stainless pipe and discusses the problem of light wall versus heavy wall pipe. Also included are a table of dimensions and weight of various stainless pipe size schedules and condensed technical data on mechanical and physical properties of the more popular stainless steels used for piping. Copies of this new bulletin, designated TB 356, are available free upon request to the division's general sales offices at Beaver Falls, Pa.

Baer to Sell for Lueders

J. W. Baer has joined the eastern sales staff of George Lueders & Co., New York, it was announced recently by Frederick Lueders, president. After completing two years in the army Mr. Baer entered the essential oil field in 1945. He is a graduate in pharmacy from Columbia University.



it all comes out in the wash

(Or, Victor Tells a Clean Story)

There is a simple explanation for the spectacular growth of synthetic detergents or "syndets" . . . they do an outstanding job of washing clothing, dishes and floors, even grimy automobiles. In the formulation of heavy-duty detergents leading manufacturers rely on Victor for sodium tripolyphosphate, and tetrasodium pyrophosphate. These polyphosphates have remarkable properties of water softening and peptizing—a major requirement of these modern time-savers. Other Victor sodium phosphates are used depending on the cleaning job to be done. Giving soap and detergent manufacturers what they want . . . when they want it . . . is a prime objective at Victor. For example, in the New York area, covered hopper trucks now make delivery of sodium tripolyphosphate in as little as five hours from our Morrisville plant. Special service like this is just one more reason why "soapers" know *it pays* to see Victor.

VICTOR SERVES THE SOAP AND DETERGENT INDUSTRY:

SODIUM TRIPOLYPHOSPHATE — Synthetic detergents, cleaning compounds, and soap . . . **POTASSIUM PHOSPHATES**

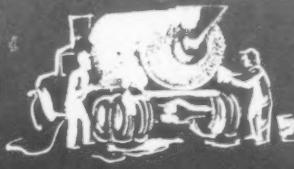
— Liquid soaps and washing compounds . . . **TETRASODIUM PYROPHOSPHATE** — Soap, synthetic detergents, and cleaning compounds . . . **TRISODIUM-PHOSPHATE** — cleaning compounds.



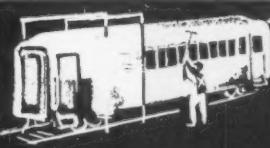
POTASSIUM PHOSPHATES FOR
"BUILDING" LIQUID SOAPS



TRISODIUM PHOSPHATE FOR
HEAVY DUTY CLEANING



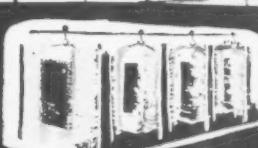
TETRASODIUM PYROPHOSPHATE
FOR POWDERED SOAP BUILDER



OXALIC ACID FOR RAILROAD
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*SODIUM TRIPOLYPHOSPHATE
FOR BETTER DETERGENCY



SODIUM ACID PYROPHOSPHATE
FOR REDUCING DETERGENT pH

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Products and PROCESSES

Improving Tallow Color

The color of pale yellow mixed tallow can be somewhat improved by an optical brightener. However, better results are usually obtained where the tallow is first submitted to the usual refining process and then bleached by ordinary methods. An addition of optical bleach will then usually compensate for the last remnants of yellow color.

Alkylolamides in Shampoos

Mono and di-alkylolamides act as foam boosters in liquid and liquid cream shampoo formulations. They help to increase creaminess and thickness of the lather, and act as thickeners for liquid shampoos. By their addition to alkylolamine-neutralized lauryl sulfates practically any desired viscosity can be achieved. Following is a suggested formulation for a built medium viscous liquid shampoo using triethanolamine lauryl sulfate: triethanolamine lauryl sulfate, 60; fatty alkylolamide, 2; perfume, 0.5; water to make 100. In liquid cream shampoos the stearic acid derivatives are commonly used as opacifying agents, although pearliness is generally better achieved by other stearic acid condensation products. *Manufacturing Chemist*, December, 1954, page 531.

Antistatic Surfactant

An 0.1 to 2.0 percent aqueous solution of a surfactant designated "Cationic SP" prevents development of static charges on surfaces of textiles, plastics, paper, paints, glass and other materials. The use of the surfactant is described in a recent issue of "For Instance", house organ of American Cyanamid Co., New York. When used in wax polishes the agent prevents accumulation of strongly adhering dust particles on polished surfaces. In aqueous solution it may be applied to various surfaces by spraying,

brushing or wiping with a cloth. The product may be incorporated in the rinse water during textile processing or added to a plastic composition before forming.

Wetting and dispersing powders of the product make it useful in resin treated paper towels where its presence in small amounts increases the rate of water absorption.

Polyethylene for Polishes

Emulsifiable type "A-C" polyethylene is available for evaluation on a plant run scale it was announced recently by Semet-Solvay Division, Allied Chemical & Dye Corp., New York. The compound is suggested as an ingredient for liquid floor and shoe polish formulations. It is said to give small particle size, stable, clear emulsions with high solids content. Good color properties and a stable price are additional advantages.

Prices are quoted per pound, delivered in the United States, and range from 40 cents to 52 cents, depending upon grade and quantity. A complete list of prices for "A-C" polyethylene and additional product information is available from Semet-Solvay Petrochemical Division, Allied Chemical & Dye Corp., 40 Rector Street, New York 6.

Cure For Soap Sweating

The sweating of soap has become a real problem only since the almost exclusive use of distilled fatty acids for soap making. Formerly, when neutral fats were used which were pure enough to require only one salting out process, sweating was far less of a problem than it is today. Where the distilled fatty acids are used there is no hygroscopic glycerine to prevent sweating. Actually an addition of glycerine to the settled soap in the crutcher stops this undesirable phenomenon. But this is not a practical answer, because glycerine is expensive. However, an addition of sodium hexa-

metaphosphate, which is also hygroscopic, greatly reduces the sweating of soap. Several factories employ the method successfully. Furthermore, this additive prevents rancidity of soap by forming complex compounds with the metal traces. The following procedure is adopted: One kilo of sodium hexametaphosphate is stirred into two liters of warm water and the solution is allowed to stand for several days. It is made slightly alkaline and then added to the soap in the crutcher. Usually 0.5 to 1.0 percent sodium hexametaphosphate is used for this purpose. *Seifen-Oele-Fette-Wachse*, No. 1, 1955, pp. 7-8.

New Koppers Spray Coat

Protection from corrosion combined with a moderate degree of insulation is offered by a new spray coating for metal equipment, introduced recently by the Tar Products Division of Koppers Co., Pittsburgh. Designated "Bitumastic K", the product is made of processed coal tar pitch, mineral filler, solvent, and granulated cork. Requiring no primer, one application produces a protective covering of up to one half inch in thickness, suggested for use on metal tanks containing heated materials up to 150° F. where corrosion protection as well as insulation against major heat losses is required. Heating and ventilating ducts, chemical plants and equipment, etc. are other suggested fields of application.

Ninols in Syndets

"Ninol" type alkylolamides (condensation products of more than one mole of dialkylolamine with one mole of fatty acid) with free fatty acid contents of five to 10 percent are recommended for use in the formulation of liquid cleaners. Oily pale brown liquids, these products are water soluble and exhibit good detergency, especially on hard surfaces such as walls, tiles, floors, etc. A suggested formula includes: condensate, 7; trisodium phosphate, 2; sodium tripolyphosphate, 2; alkyl

(Turn to Page 189)

New Enchantment

for your



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Soaps . . .

Let us help you with the
UNUSUAL
in NATURAL and AROMATIC
MATERIALS

We are exclusive representatives for
TOMBAREL FRERES, Grasse
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- Absolute Supreme Flower Essences •
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*Tombarel Research and
Tombarel's modern facilities can
help give your product that new
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PRODUCTS CORPORATION

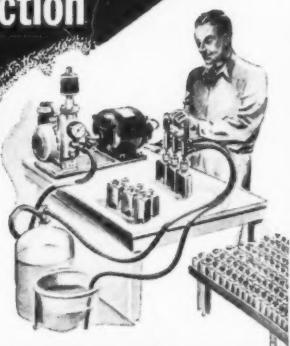
725 BROADWAY • NEW YORK 3

IN CHICAGO: A. C. DRURY & CO. INC.
219 EAST NORTH WATER STREET



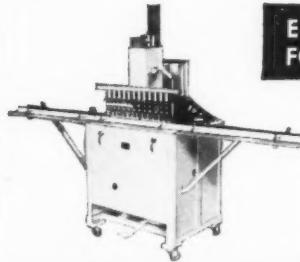
ERTEL BOTTLE FILLERS MEET DEMAND
FOR 40-80 BOTTLES PER MINUTE, and

**Materially lower
Your Production
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ERTEL PORTABLE FILLER

This Vacuum Bottle Filler belongs in every plant. Fills batch or sample lots of materials at lowest cost; for small operations where large expensive equipment is not practical. Fully automatic overflow—no drip spouts. Instantaneous flow —won't fill defective or cracked bottle.

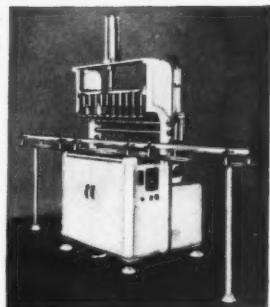


ERTEL ESA FILLER FOR SMALL BOTTLES

The most practical filler for small bottles in quantities of 40 to 60 per minute. To appreciate this unit it should be viewed in operation — the finest low cost trouble-free unit on the market.

ERTEL PNEUMO-VAC FILLER Filling Range 3" to 13" High Bottle

For speeds up to 40 quarts per minute, this precision Ertel filler has no equal. New type spouts positively prevent drip-page. Available with circulatory passages either bronze, plated, or stainless steel. Adjustments are simple and require but a few seconds time. If you have a filling problem see the Pneumo-Vac — it's designed for low cost operation.



Ask to have an Ertel representative show you why Ertel Fillers are so enthusiastically acclaimed by users in the pharmaceutical, drug, cosmetic, chemical and food industries.

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COMPLETE LINE OF
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OUR REPRESENTATIVES
THOMAS REGISTER



SOAP and CHEMICAL SPECIALTIES

NEW Patents

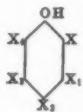
The information below is furnished by patent law offices of

LANCASTER, ALLWINE & ROMMEL
402 Bowen Building
Washington 5, D. C.

The data listed below is only a brief review of recently issued pertinent patents obtained by various U. S. Patent Office registered attorneys for manufacturers and/or inventors. Complete copies may be obtained direct from Lancaster, Allwine & Rommel by sending 50c for each copy desired. \$1.00 for Foreign. They will be pleased to give you free preliminary patent advice.

No. 2,697,695. Detergent Composition, patented by Louis McDonald. Inyokern, Calif. A sudless composite detergent for mechanical washing and laundering operations is described comprising 70 to 90% of a sodium high molecular weight fatty acid soap, 5 to 25% of a non-ionic organic surface active agent consisting of high molecular weight aliphatic acid esters of anhydro-hexitol ethylene oxide condensates, 1/2% to 2% of an anionic non-soap synthetic organic detergent and 0.1 to 1% of emulsified water-insoluble ethyl cellulose having 2 to 4 ethoxy groups per glucose residue.

No. 2,698,301. Antiseptic Detergent Composition, patented by Roland Smith Shumard, Brentwood, Mo., assignor to Monsanto Chemical Co., St. Louis, Mo. An antiseptic detergent composition is disclosed comprising a detergent soap and 0.5 to 5% by weight based upon the weight of the detergent soap of a pentahalogenated phenol of the general formula



where X , X_1 , X_2 , X_3 , and X_4 are halogen atoms.

No. 2,698,302. Detergent Compositions Containing Metal Discoloration Inhibitors, patented by Herbert Smith Sylvester, Leonia, N. J., assignor to Colgate-Palmolive Co., Jersey City, N. J. The patent covers a detergent composition consisting essentially of about 10 to 50% of a water-soluble anionic organic synthetic detergent selected from the class consisting of the water-soluble anionic organic detergents sulphates and sulphonates, and about 10 to 80% of water-soluble inorganic polyphos-

phate salts selected from the group consisting of tripolyphosphates, pyrophosphates, hexametaphosphates, tetraphosphates and mixtures thereof, and having incorporated therein about .05 to about 3% by weight of ursymmetrical mononuclear aryl thiourea.

A detergent composition normally tending in water solution to cause tarnishing of a copper base alloy consisting essentially of a water-soluble inorganic polyphosphate, and having incorporated therein a minor amount of a mononuclear aryl thiourea sufficient to inhibit said tarnishing is also described.

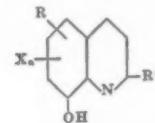
No. 2,695,225. Herbicidal Compositions, patented by Eugene D. Witman, Pittsburgh, Pa., assignor to Columbia-Southern Chemical Corp., Allegheny County, Pa. Disclosed is a herbicidal composition comprising a herbicidal concentration of isopropyl N-3-chlorophenyl carbamate and a diluent therefor.

No. 2,695,840. Methods and Compositions For Killing Weeds, patented by Paul W. Leppla, Palos Verdes, Calif., assignor to Great Lakes Carbon Corp., New York, N. Y. The patent discloses a composition for killing growing weeds comprising essentially a substantially dry pumice aggregate impregnated with herbicidal agent, said aggregate having a particle size within the range of $1/4$ inch to +50 mesh and a water absorption factor, dry basis, of at least 25 per cent by weight, said aggregate being resistant to abrasion, crushing, and to slacking when wet by water.

No. 2,696,500. Production of Sebacic Acid, patented by Werner Stein, Dusseldorf-Holthausen, Germany, assignor to Herkel & Cie., G. m. b. H., Dusseldorf-Holthausen, Germany. In the method for the production of sebacic acid by the treatment of the alkali soaps of castor oil and ricinoleic acid with caustic alkalis at increased temperatures, the improvement covered by the patent comprises conducting said caustic alkali treatment in the presence of an additional alkali soap of a fatty acid substantially liquid at the said treating temperature and thereafter recovering sebacic acid from the reaction mix.

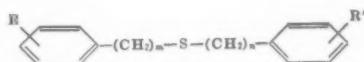
No. 2,695,881. Antiseptic Soap Composition, patented by Eugene W. Elliott, Pine Lawn, and Roland S. Shumard, Brentwood, Mo., assignors to Monsanto Chemical Co., St. Louis, Mo. An antiseptic detergent composition is described comprising a detergent soap and a minor weight proportion in respect to the detergent

soap sufficient to impart antiseptic properties of a mixture of a halogenated 2-hydrocarbon substituted-8-hydroxy quinoline of the formula



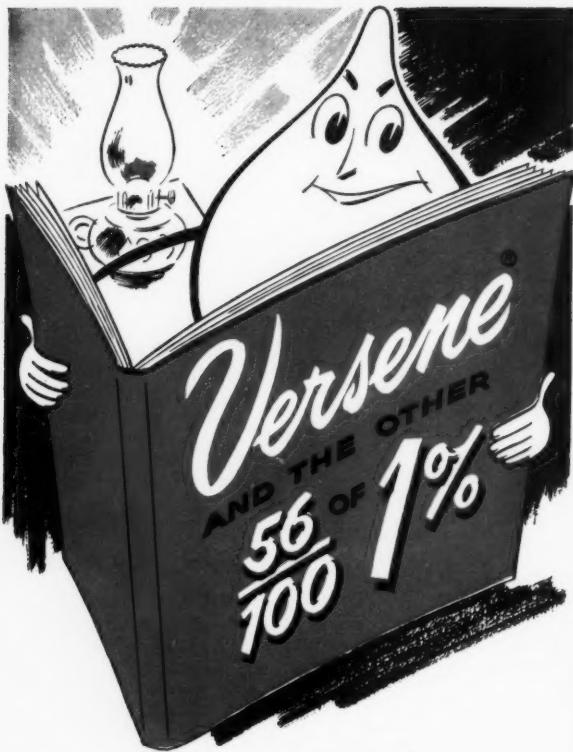
where X is a halogen atom, where n is a whole number from 1 to 2, where R is selected from the group consisting of hydrogen, halogen atoms and short-chain alkyl groups, and where R' is a hydrocarbon group containing not more than 7 carbon atoms selected from the group consisting of alkyl, aralkyl, aryl and alkaryl radicals, and a tetra-alkyl thiuram disulfide wherein each alkyl substituent is a short-chain alkyl group, said thiuram disulfide being a synergist for said halogenated compound.

No. 2,695,224. Prevention of Plant Growth with Arylic Sulfides, patented by Arthur H. Schlesinger, Dayton, O., assignor to Monsanto Chemical Co., St. Louis, Mo., the patent describes a method of preventing plant growth which comprises applying to media normally supporting said growth a herbicidal composition comprising a sulfide having the formula



in which R and R' are selected from the class consisting of hydrogen and alkyl radicals of from 1 to 5 carbon atoms and m and n are numbers of from 0 to 2, said sulfide being present in said composition in a quantity which is toxic to plant life.

No. 2,693,479. Process of Preparing Organic Sulfonates and Sulfates, patented by John Ross, Ramsey, N. J., assignor to Colgate-Palmolive Company, Jersey City, N. J. The patent covers a process which comprises establishing a heelpart comprising a reaction product obtained by reacting a sulfonating agent with organic material selected from the group consisting of alkylated aromatic hydrocarbons and fatty acid monoglycerides, continuously withdrawing a portion of said heel-part and circulating the same through a cooling zone, continuously and separately introducing fresh organic material and fresh sulfonating agent into said circulating heel-part immediately prior to circulation of the latter through said cooling zone, the ratio of circulating heel-part to the sum of the quantities of freshly added organic material and sulfonating agent being within the range of about 8:1 to about 20:1 parts by weight respectively.



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SOAP and CHEMICAL SPECIALTIES

By John W. McCutcheon

IS soap on the way out? The answer to this question is sure to cause an argument. The soaper will say never! The synthetic detergent chemist is likely to say yes, emphatically! The facts in America continue to point toward synthetics. The ratio of soap to synthetics is believed now to be of the order of 45 to 55 and this figure may be changed upward when the 1954 returns are in.

It was only a very few years ago that the writer commenting on the fact that synthetics had taken about 10 percent of the soap market received a lengthy letter from England asking for more information on this phenomenal finding. The letter was from a very prominent fat specialist — Dr. Hilditch, I believe.

How much soap will be displaced will depend largely on the industrial development of the country involved. For example, where the people are very poor and still wash with bar soaps — when such are available — synthetics have not made much headway. This for two reasons:—First, there has not been, up to now, sufficient incentive in the bar soap field to produce a suitable synthetic detergent product at a competitive price. Secondly, the lack of mechanical appliances such as washing machines and the cost of detergents have held down the use of synthetics. Both these factors are transitory. There is no reason to believe that countries whose present economic status and chemical development is unfavorable to the development of a detergent industry will not change in the future. Evidence of such changes is all around us. In America, with its well developed chemical industry, the only large soap use still persistently remaining is in the toilet bar field. This, to date, has defied the ingenuity of the chemist. There is now some evidence that this too will be



conquered soon, thus opening a new field of use.

In a recent article in *Textile Age* (Page 48, January, 1955), the statement is made that soap use persists in textile mills and will probably persist due to the "reluctance of the dyer to discard old friends." The use of water softening resins and sequestering agents has been a factor in halting a complete swing to detergents. Actually, the textile industry was one of the first to adopt detergents but as stated above, still remains one of the soaper's best customers. This probably illustrates extremely well, how soap can and will remain a part of the industrial economy. The case is purely one of costs — detergents versus soaps plus sequestering agents or water softeners.

Some time ago in this column the use of water softening devices for home use was mentioned and it was pointed out that a thousand or more companies were doing home servicing in those areas where the water was extremely hard. Just the other night television got into the act in the New York area on the same theme. Now New York is a comparatively soft water area — about 75 P.P.M. year around. If this area can be sold on water softeners then progress in this field has indeed been more rapid than the

writer thought. There is one point in the sales pitch to which the writer takes exception and that is the statement that a water softener will save you hundreds of dollars on your soap bill. The average household probably spends something less than \$50.00 a year on all type detergents, including soap! And you don't need soft water with 55 percent of the products now purchased!

The sum total of the above comments seems to indicate, to the writer at least, that detergents have just not yet found their proper place anywhere as yet. Even in America where present soap use is less than half that of detergents, the trend will continue ever upward until all that is left for soap will be a small basic core of industrial uses. The writer can see no real reason why detergents should not take 75 to 80 percent of the American soap market within the next 10 years.

* * *

IT has been estimated that American production of fatty alcohols in 1953 was approximately 70,000 tons. Most of these are from coconut oil and tallow for use in retail type detergents. The two methods of producing fatty alcohols are by high pressure hydrogen reduction and by sodium reduction. Both methods are being used, and new plants erected within the past two or three years have shown no favoritism. This situation is complexed by the basic reactions. The high pressure hydrogenation method is cheaper over a long term and works best on saturated fats and oils. Tallow, for example, is best hydrogenated before use.

The sodium reduction method uses the costly sodium but can be used with equal ease in producing unsaturated or saturated alcohols. This has some advantages, because the unsaturated oleyl alcohol from tallow is more soluble and gives a better detergent type product when sulfonated than does its stearyl counterpart. This fact, however, is of little commercial value as there has been no cheap way of sulfonating the oleyl product without attacking the double bond also and

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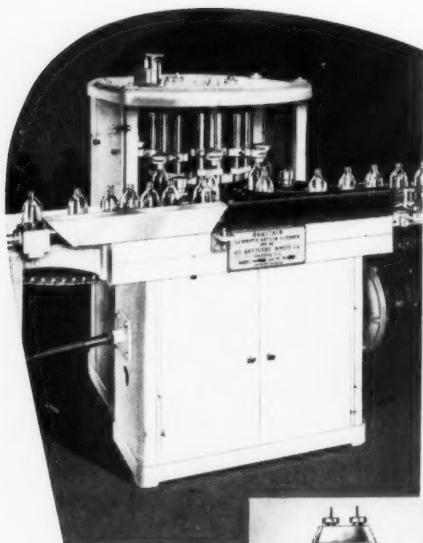
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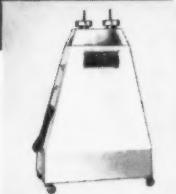
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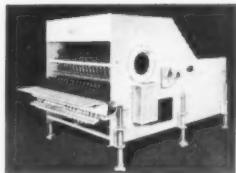
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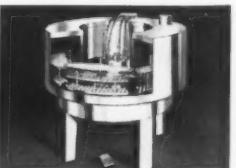
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thereby spoiling the advantage gained.

Some test work on oleyl sulfates produced by sodium reduction is given by Hill, Wilson & Steinle in *Ind. & Eng. Chem.*, Sept. 1954, p. 1917 which is well worth a close study — just in case.

It is shown, for example, that the use of 18 percent unsaturated tallow sulfate in one built formula gives the same detergency as one in which the active ingredient mixture consists of eight percent saturated tallow sulfate, two percent lauryl sulfate and eight percent alkyl aryl sulfonate. Not an exciting conclusion, but seemingly an honest one. The fact that there is work being done on this type of project by people who are only indirectly interested in detergents is very gratifying. The writer is fully convinced that unsaturated fatty alcohols or modified alcohols can be successfully sulfonated to superior type detergents and thereby give a real boost to the use of tallow as a substitute for coconut oil in detergent use. One question that remains unanswered to date: What are the renderers doing about this type of research?

* * *

Soap wrapper's jig is a nervous disorder caused by faulty technique in the wrapping operation. The term appears in the English literature and as far as known is as thoroughly British as a London fog. Hand soap wrappers — beware!

* * *

Sesquicarbonate Booklet

"Snowflake Crystals and Snowfine" is the title of a new booklet published recently by Solvay Process Division, Allied Chemical & Dye Corp., New York. It offers descriptive and use information on Solvay's brands of sodium sesquicarbonate. Data on solubility, bulk densities, rate of solution, water softening ability, pH of solutions, acid neutralizing values, buffering action, and storage stability are supplied. The booklet is available from the division's advertising and sales promotion department, 61 Broadway, New York 6, N. Y.

Monsanto Phosphate Guide

A 37-page booklet intended as a reference guide to sodium phosphate in industry was published last month by the inorganic chemicals division of Monsanto Chemical Co., St. Louis, Mo. The section devoted to applications names phosphates in soaps and detergents in first place, and subdivides this use information into household and industrial cleaning agents. The industrial division gives details on the action of phosphates in metal cleaners, metal treatment, commercial laundries, industrial sanitation, steam cleaners, and dairy detergents.

General information on individual phosphates is included in the form of tables and properties such as detergency, water softening, peptization, sequestration, etc., are described in text and graphs.

* * *

Ortho Plane Engine Wash

Orthodichlorobenzene with a maximum of 0.01 percent of hydrochloric acid, produced by Monsanto Chemical Co., St. Louis, Mo., is used by airlines for removal of carburetor blower section gum deposits. The method is said to restore horsepower markedly while eliminating the need to disassemble engines prior to scheduled time. The following procedure is adopted:

A $\frac{1}{2}$ -inch ID rubber hose, long enough to reach the ground, is connected to the carburetor adapter. With engine running at 1300 rpm, the end of the hose is inserted into a container of ortho and two to three gallons siphoned into the blower section in about 30 minutes.

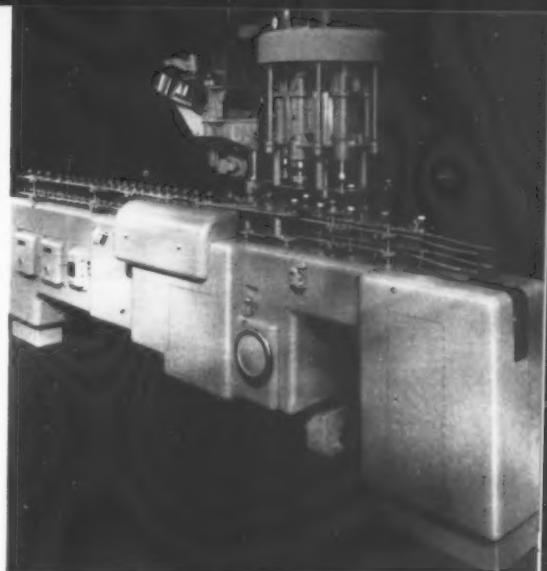
The slow siphoning is more effective than force feeding, which has a tendency to result in dilution of crankcase oil. Treated engines are not run above 1500 rpm at 30 MAP until all spark plugs are changed.

Liquid Filling Units

(Continued from Page 93)

are designed for use as either a suspension model or for mounting directly on a bench or conveyor.

The suspension model is held by three springs, which may be hung from



The "Pneumacap-6" capping unit of Pneumatic Scale Corp., Quincy, Mass., is a fully automatic rotary capper. Models are available for simultaneously applying four, six and eight caps ranging in size up to 70 mm.

the ceiling (as illustrated) or from a standard cast iron mounting. This mounting is designed so that adjustments for containers of different heights can be made. This unit will handle caps up to 54 mm. in diameter.

The mounted bench capper is a direct drive, foot-pedal operated machine which applies caps up to 90 mm. in diameter. This model is designed for use in a conveyor line or where both hands of the operator need be free. The pedal unit is self-contained and does not require fastening to the floor and is adjustable for different bench heights.

The headpiece contains a clutch which prevents the head from rotating until the chuck engages the cap and slight pressure is applied by the operator. The degree of tightness may be pre-set and when it is reached, the chuck disengages from the cap. Tightness may be adjusted by means of a tension device located in the motor gear case. Chucks can be furnished on broached, knurled or rubber insert styles.

Pneumatic Scale Corp., Quincy 71, Mass., produces a line of rotary type capping machines available in four, six and eight head models.

"Pneumacap" cappers are fully automatic. The three units handle caps up to 70 mm. in diameter on the standard machine. Special machines handle caps up to 89 mm. in diameter. "Pneumacap" cappers can handle containers up to four inches in diameter (except for the eight-head unit, which can handle containers up to $3\frac{1}{8}$ inches in diameter) at speeds up to 240 containers per minute on the eight-head unit. The six head unit can handle 180 containers per minute and the four head unit 120 containers per minute. The machines require compressed air at 70 p.s.i., which is not furnished with the machine. The height of the conveyor is adjustable. Illustrated is the "Pneumacap-6" capping unit.



Cappers for applying plastic or metal closures automatically, such as those shown above, are made by Resina Automatic Machinery Co.

The "Sterling" cap feeder is available in two sizes. Feeder #2 handles caps up to 33 mm. in diameter and Feeder #3 applies caps up to 89 mm. in diameter. Both feeders handle molded or metal turn-on closures of all types. The feeder is not sensitive to excessive variation in closure height or diameter. Several different cap sizes can be handled with one setting and without additional parts.

Containers arrive from the filler either singly or in groups. They are properly spaced and fed into a capping turret. Here the air chuck is lowered onto the container. This air chuck has an aluminum alloy circular cage containing a doughnut shaped "Neoprene" ring which is backed by a free fitting bronze disc or piston. Air pressure on the piston face "squeezes" the "Neoprene doughnut." The "doughnut," in its contained area, can move only against the cap, which it grips around the entire surface. The chuck then screws the caps on the containers.

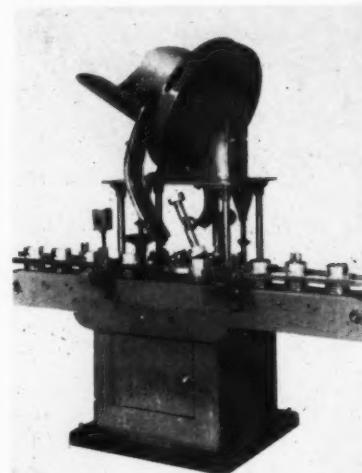
Resina Automatic Machinery Co.
572 Smith St., Brooklyn, N.Y., manufactures a line of screw cappers. These cappers, available in several models, are completely automatic and can be used for applying screw caps made of metal or "Bakelite" on all sorts of containers—glass or plastic. The cappers are manufactured in several models, having speeds ranging from 20 to 300 containers per minute, and will accept containers from five cc's to two-gallons in size. Variable speed control is available to synchronize with other machines as is a means for controlling cap tightness. The machine can be adjusted for container and cap size.

Tite-Cap Machine Co. 57 Rose St., New York, makes a line of portable and automatic screw cappers. The portable unit is designed to handle screw caps of every type, both molded or metallic. Normal capping rate is 30 to 60 containers per minute. The portable machine is suspended above the operator and containers to be capped, the working head being about one-half inch above the containers. The caps are dropped on the containers by hand and the ma-

chine is used to attach them to any degree of tightness.

The application of metal seals, inner seals, plugs and friction lids to tin and fibre cans can be accomplished with "Tite-Cap" fully automatic lid sealing equipment. The machine operates with a magnetic head, which picks up a seal from the bottom of the chute and applies it to the opening in the can as it moves into position under the rotating head. No additional operation is necessary as the application of the seal is positive. The can is in continuous motion during the operation, no momentary stopping or holding being required. The rotating head is fully adjustable so that the seals or lids may be applied to an opening in any position on top of the can.★

Automatic screw capper for handling all types of screw caps made by Tite-Cap Machine Co.



Soap Perfuming (From Page 36)

with metals. The widely used amylnsalicylate rapidly discolors soap containing traces of iron. There is quite enough trouble involved in

using small amounts of valuable odorants that are subject to change of color due to ordinary atmospheric oxidation without running the always grave risk of drastically metal-catalysed or metal-induced discoloration.

I like the general specification for toilet soap base laid down by J. W. McCutcheon ⁽¹¹⁾, who refers to the avoidance of highly unsaturated stocks and the maintenance of color, iodine value and titre standards. If oils have been bleached, all traces of the bleaching agent should have been removed. It is particularly important, as Kilmer emphasizes, to insure maximum resistance towards rancidity development, as few odorant blends will remain unaffected while peroxide formation proceeds in the lipophilic portion of the soap micella.

So much for the soap itself: the subject is one that has been dealt with many times elsewhere, and at much greater length, but it is always worth repeating the fact that a good soap perfume can easily be spoiled and wasted in a toilet soap base that falls below the required standard.

(To be concluded)

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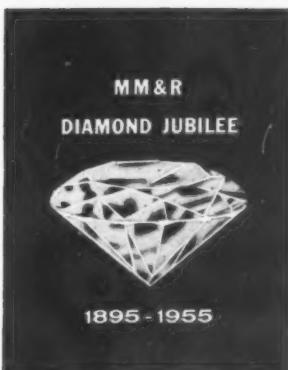
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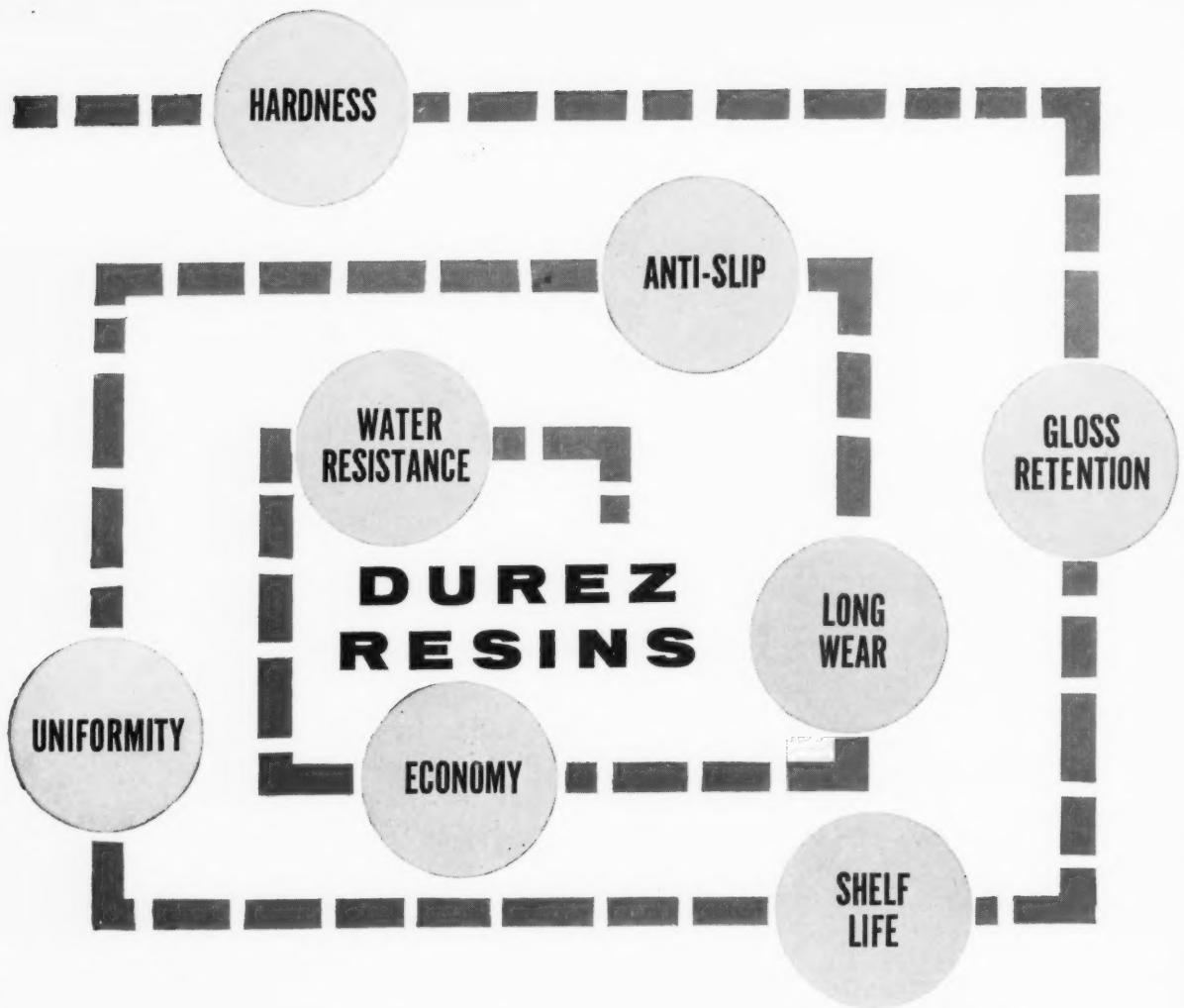
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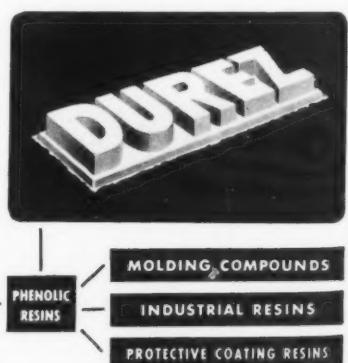
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EXAMPLE #1

YOUR QUESTION: Do dealers like to sell aerosol products?

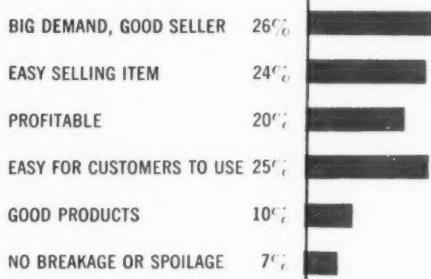
SURVEY ANSWER: As the chart below shows, almost *9 out of 10* of the retailers who stocked aerosols said they do. Dealer acceptance like this—undoubtedly reflecting the sales success of aerosols—can be a great asset to a manufacturer.



EXAMPLE #2

YOUR QUESTION: Why do dealers like to sell aerosols?

SURVEY ANSWER: The reasons given—listed below—make excellent sales points for manufacturers of aerosol products. Figures total over 100% because some dealers gave more than one reason.



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Our "Kinetic" Laboratory has facilities that are unsurpassed for work with aerosols. Experienced chemists can help develop formulations suited for aerosol dispensing, and can even help you work out

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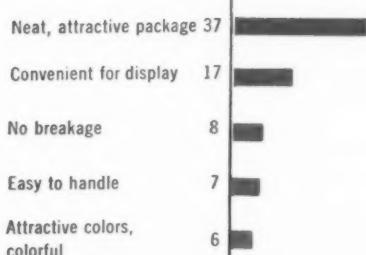
retailers who sell aerosols

EXAMPLE #3

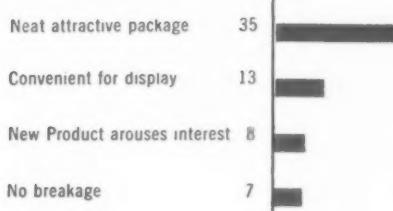
YOUR QUESTION: Why do dealers rate aerosol products

as good or very good display items? (Asked of the 83% of dealers interviewed who rated aerosols good or very good. Only leading reasons given here.)

HOUSEHOLD AEROSOL PRODUCTS



PERSONAL AEROSOL PRODUCTS



SEND FOR FREE BOOKLET OF SURVEY FINDINGS

WITH ANSWERS TO THESE QUESTIONS ON AEROSOL MARKETING

How has distribution of aerosols grown in the last five years in drug stores? In variety stores? Department stores? Other types of stores?

• • •

What household aerosol products do each of these types of stores stock? What personal aerosol products?

• • •

How do dealers think aerosol products are selling in their own stores in competition with non-aerosol products?

• • •



MAIL THIS
COUPON FOR
YOUR COPY

E. I. du Pont de Nemours & Co. (Inc.)
Room 11500, Nemours Bldg., Wilmington 98, Delaware

Please send me the booklet "Spotlight on the Aerosol Market". I am interested in aerosol packaging for _____

Name _____ Position _____

Firm _____

Address _____

City _____ State _____

How many brands of the various aerosol household and personal products do the dealers stock?

• • •

What display material have dealers received from manufacturers of aerosol products during the past year? How much of it did they use?

• • •

What type of display and advertising material do the dealers think most effective for aerosol products?

• • •

Where in the stores did interviewers find aerosol products located?
— and many others



only

PARADI®

offers you 7 sizes

Paradi is 100% pure Hooker paradichlorobenzene. These seven sizes make your processing and packaging job easier. The clean, dry, sparkling crystals give your product every possible market advantage.

You can get Paradi in fiber drums—25, 50, 100 and 200 lbs. net.

Which sizes are best for you? Why not order a trial quantity today?

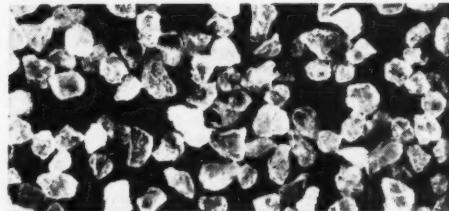
All photos actual size ▶

FREE FOLDER... Hooker Bulletin 454 contains much interesting and useful information on handling and using Paradi. Send for a copy today.



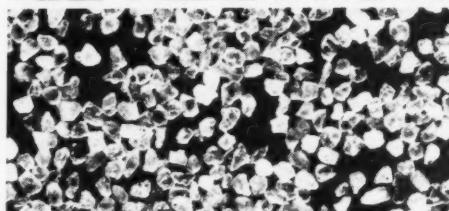
PEA NO. 1

Repackage these big sparkling crystals, just as they come from the drum. A pound looks like more... has extra retail appeal.



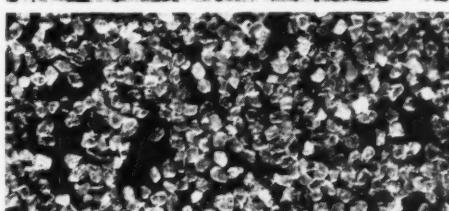
PEA NO. 2

Add variety to your mothicide line, with these finer, free-flowing crystals. They're ready to repackaging as is—or can be perfumed without melting.



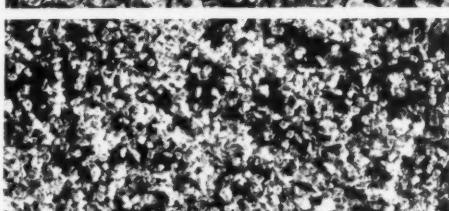
RICE NO. 1

Offer this special fine size for sprinkling in folds and seams of clothing. This crystal size sublimes quickly, to give unusually high concentration of moth-killing fumes.



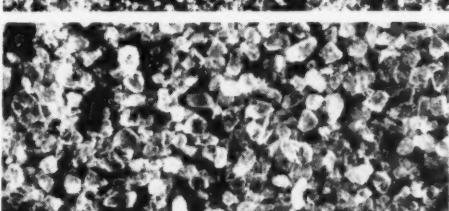
RICE NO. 2

Feed your power presses with this size. It's just right for compressing into blocks and pellets. Flows very freely, so is ideal for automatic presses where dies must be refilled rapidly.



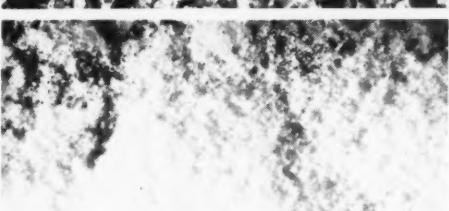
RICE NO. 3

Use this finer size in foot-operated presses. It's free-flowing but small enough to pack and compress easily with least effort, for maximum production.



GRANULATED

Boost farm sales with this bulk-package size. It's often recommended for controlling peach tree borer, tobacco blue mold; as a weed killer in cranberry bogs; in control of poison ivy and other weeds.



POWDERED

Melt this super fine size, and ladle it into molds for blocks and pellets. It melts rapidly, saves you production time. It's easily colored and perfumed.



1905—Half a Century of Chemicals
From the Salt of the Earth—1955

HOOKER ELECTROCHEMICAL COMPANY
BUFFALO AVE. & UNION ST., NIAGARA FALLS, N. Y.

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**knock-out the *Odor* in
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other strong-smelling
Chemical Specialties with**

CHLORSCENT

Many chemical specialties, which do an outstandingly effective job, fail to find favor with the public because of their disagreeable odor. If this is a problem with one of your products—you should know about CHLORSCENT! CHLORSCENT was specially developed for use in insecticides, detergents, disinfectants and many other chemical specialties which employ strong-smelling ingredients in their formulation. Chlorscent quickly, efficiently and economically covers and neutralizes these odors! A test will convince you completely, so why not order a trial quantity today. 1 lb. \$1.60.

reodorize 1 gallon of insecticide for only $2\frac{1}{2}$ cents

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by Milton A. Lesser

THIS 514-page text covers the formulation, manufacture, and use of polishes, cleansers, detergents, floor-care, leather-care, and textile products, industrial, household, and many other allied chemical specialties. Each of the 42 chapters deals with a different specialty and includes formulas and manufacturing methods for that specialty. The manufacturer, marketer, chemist and production man will find this book of great value.

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A practical book on formulation, properties, testing, history and effective use . . . full coverage of labeling (with specimen), laws, regulations, etc. . . . for every executive, salesman, plant man and chemist . . . in plain understandable language . . . an entirely new book!



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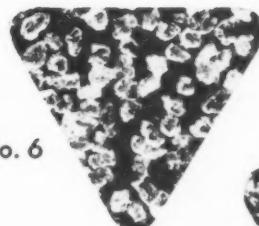
PARA-DICHLOROBENZENE



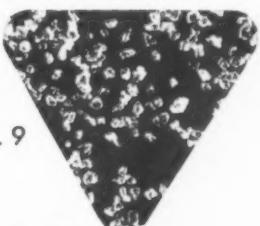
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No. 3



No. 6



No. 9

4 Sizes to Meet ALL YOUR REQUIREMENTS
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Compare these outstanding advantages...

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Gentlemen: Please send me at no cost or obligation: FREE TRIAL PACKAGE OF SOLVAY Para in the following granulations:

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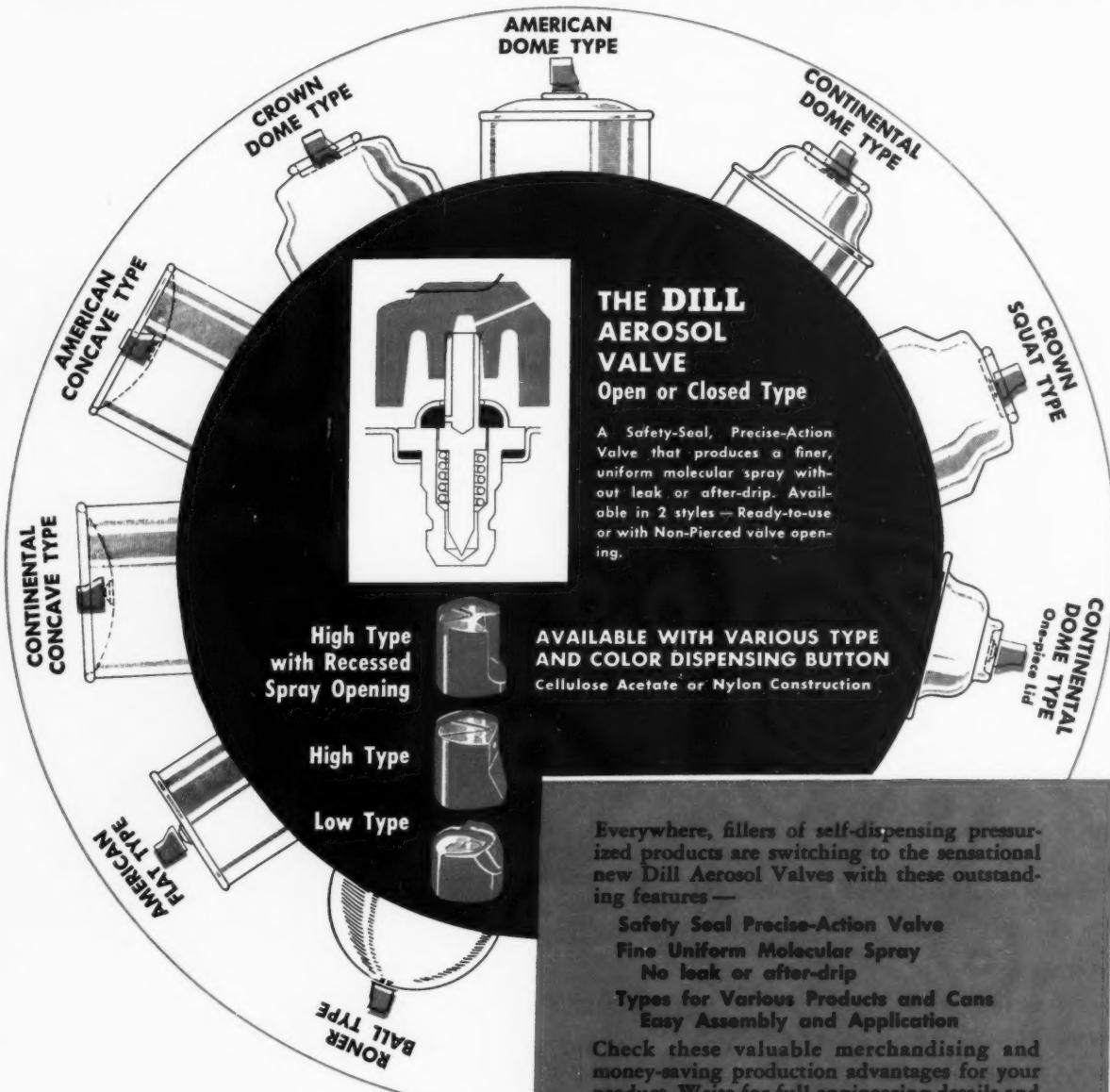
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**Clear, Hard, Scuffless, Resilient Floor Dressing
SAFE, HIGH GLOSS FOR RUBBER, ASPHALT TILE,
LINOLEUM, TERRAZZO, WOOD, CEMENT, OTHERS**

BUFFABLE-REMOVABLE

Dress any floor with Clear LAB-COTE . . . and you put down a transparent, tough, long-wearing, protective film of amazing lustre. It's like covering your floors with the beauty of cellophane!

Not a wax, LAB-COTE is easier to apply. Any unskilled person can do it. Moreover, LAB-COTE keeps floor upkeep down. It is a LAB Cost Control Chemical* for industrial sanitary maintenance.

Clear LAB-COTE wears longer and is easy to maintain. It repels dirt. Damp mopping cleans it. Buffing restores its shine. When necessary, LAB-COTE is readily removable. This clear, resilient film provides sure-footed walking . . . dazzling beauty . . . and longer protection for ALL floor surfaces.

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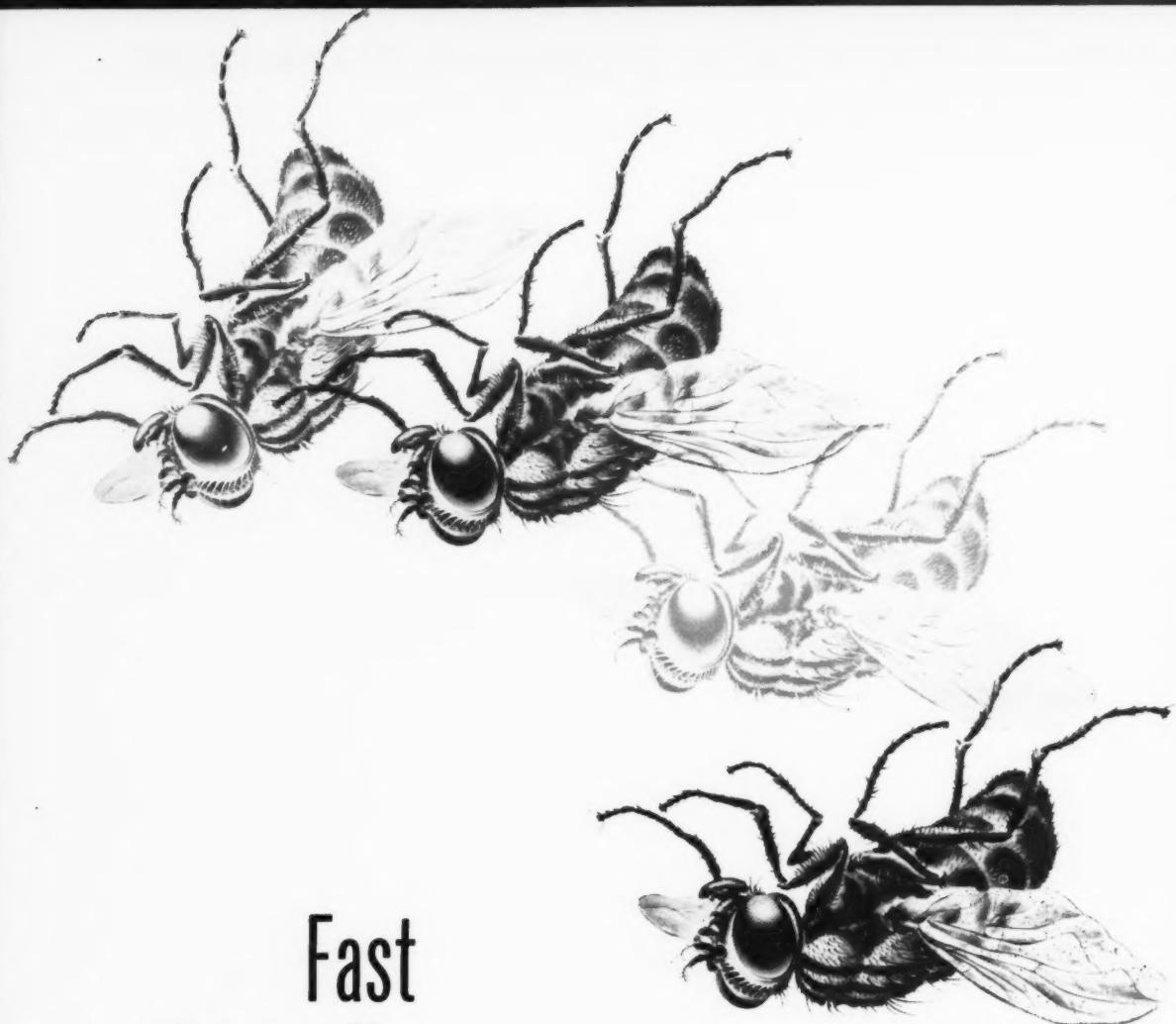
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Chemical Service of Baltimore, Inc.

HOWARD AND WEST STREETS

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BALTIMORE 30, MARYLAND



Fast
farewell,
thanks to
LETHANE

LETHANE 384 can give your aerosols and sprays the quick knockdown that means added sales. LETHANE is the most efficient knockdown agent per unit of cost that you can buy.

By using LETHANE in your aerosols you can make a saving of as much as three cents per can. We can suggest formulations that will help you save this money. LETHANE 384 also works wonders in cattle and barn sprays and in household sprays.

For more details, call your nearest Rohm & Haas office, or write us direct, today.

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Celite Adds Delicate Abrasiveness . . .



Putting a "Soft" shine in polishes

TO PRODUCE A POLISH that is scratch-free—yet contains exceptional cleaning powers—most leading manufacturers of fine polishes use one of the Celite* Mineral Fillers as a standard ingredient. This use of Celite Fillers is based on their deli-

cate non-scratching abrasive action—a property that derives from their porous, thin-walled cellular structure. It is one of many unusual physical characteristics that adapt these diatomaceous silica powders to numerous industrial uses.

THESE CELITE PROPERTIES BENEFIT MANY TYPES OF PRODUCTS

Because of their inertness and great bulk per unit of weight, Celite Mineral Fillers make ideal bulking agents for powders and pastes. Their tiny multi-shaped particles interlace to stiffen and strengthen admixtures. The microscopically small facets of these particles diffuse light so effectively that they can be utilized to impart any desired degree of flatness to a surface film. Their light, porous nature improves suspension, helps prevent segregation. And

their high absorption properties and unique diatom structure make them unusually effective as a means of overcoming caking in deliquescent materials.

If you are looking for the "extra something" to lift your product above competition—at a negligible cost—why not discuss your problem with a Johns-Manville Celite Engineer? For further information and samples, write Johns-Manville, Box 60, New York 16, N. Y.

*Celite is Johns-Manville's registered Trade Mark for its diatomaceous silica products.

CHECK THESE CELITE BENEFITS FOR YOUR PRODUCTS

- Added Bulk
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- Faster Cleaning Action
- Greater Absorption
- Improved Color
- Increased Viscosity
- Elimination of Caking
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- Improved Dispersion



Johns-Manville CELITE

INDUSTRY'S MOST
VERSATILE MINERAL FILLER

the Floor-Coating that
GRIPS as it GLEAMS



GLOSS-GRIP

for Safe... Non-Slippery... Self Polishing Beauty!

This new floor finishing treatment is everything its name—Gloss-Grip—implies. It combines beauty, long-wear, ease of application, and economy with *perfect safety*.

Gloss-Grip is a waxless floor finish that provides a traffic surface on all floors that is actually safer and more anti-slip than the original untreated surface. Because it contains no wax, *Gloss-Grip is completely scuff-resistant*.

Its film—much harder, much tougher, more wear-resistant than wax—requires no

buffing, self-polishes to a glareless, medium-high lustre, and resists dirt and traffic marks.

It can be cleaned with a damp mop or by dry-cleaning with a soft-bristled brush under a buffering machine. When traffic lanes show wear, they can be refinished without evidence of lap marks.

Gloss-Grip, designed for use on all floor areas, is especially recommended for asphalt, rubber, and vinyl tile, and linoleum.

Samples and complete information sent upon request—without obligation, of course.



2841 S. Ashland Ave., Chicago 8, Ill. *The Pioneers in Floor Sealers... Finishes and Waxes*

VARNISH DIVISION

News about

B. F. Goodrich Chemical *materials*

EFFECTIVE IN
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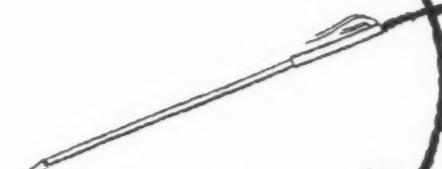
ANTS
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MOTHS

Liquid spray
Good-rite

STROBANE

REG. U. S. PAT. OFF.

*for the pest control
operator*



FORMULATIONS OF STROBANE
ARE AVAILABLE THROUGH
McLAUGHLIN, GORMLEY KING CO., INC.
MINNEAPOLIS, MINNESOTA

GOOD-RITE Strobane—thoroughly proved as an insecticide and mothproofing agent—is the ideal starting point for the pest control operator in formulating efficient liquid sprays. Strobane is highly effective in the control of ants and other pests shown above. It offers many advantages for use in hotels, restaurants, bakeries, warehouses, and other locations where insects are a problem.

CHECK THESE ADVANTAGES:

- Pleasant odor
- Requires no secondary solvents
- Leaves no visible crystalline residue
- Easy to formulate
- Will not deteriorate in storage

Strobane, used with petroleum distillate diluents, is an effective liquid spray in low concentrations.

For samples and detailed technical information, please write Dept. AK-2, B. F. Goodrich Chemical Company, Rose Building, Cleveland 15, Ohio. Cable address: Good-chemco. In Canada: Kitchener, Ontario.

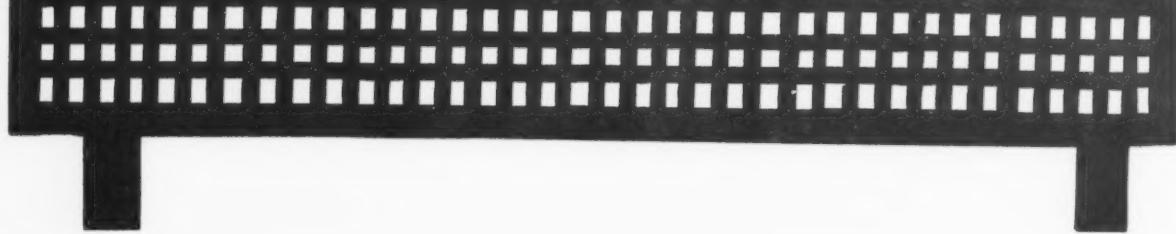
Good-rite
CHEMICALS

B. F. Goodrich Chemical Company
A Division of The B. F. Goodrich Company

NSSA TRADE SHOW

ATLANTIC CITY, N. J.

MARCH 20-23, 1955



The first eastern Convention and Trade Show of the National Sanitary Supply Association will be held in the Atlantic City Auditorium and Convention Hall at Atlantic City, N. J. from March 20th to 23rd, 1955. This should be the largest of all NSSA trade shows, based upon advance sales of booths.

Now is the time to plan on attending! Here distributors will be able to contact their suppliers, who are primarily interested in showing how their

product can best serve the consumers' cleaning, maintenance and sanitation problems. By visiting each exhibitor, distributors can be informed of the latest developments and thus be better qualified to serve the best interests of their customers.

Here you can see the very latest in products for sanitation and maintenance, — the newest in equipment, in ideas, in methods. These exhibits are designed to help you sell more, — sell better!! Don't miss the show!

We are looking forward to seeing you in Atlantic City for the biggest Trade Show yet!

NATIONAL SANITARY SUPPLY ASSOCIATION

139 North Clark Street

Philip Shore, President

Chicago 2, Ill.

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ONE TEST WILL
CONVINCE YOUR
CUSTOMERS



There's safety in the shine if there's Du Pont LUDOX® in the floor wax

Safety is a prime concern of business management today. So you'll find executives receptive when you tell them about the *extra* safety of floor waxes containing anti-slip "Ludox." Prove your point with a demonstration. Let them see for themselves how Du Pont "Ludox" gives their floors the utmost in slip resistance at no sacrifice in beauty.

Explain how the tiny particles of "Ludox" colloidal silica are forced into the softer wax globules by each footstep (see diagram at left). And be sure to point out how this snubbing action helps prevent slips and skids.

Waxes properly formulated with "Ludox" have the high gloss, water resistance and excellent leveling properties of top-grade waxes. And the protection they offer gives you a sales story *plus*!

E. I. du Pont de Nemours & Co. (Inc.), Grasselli Chemicals Dept., Wilmington 98, Del.



BETTER THINGS FOR BETTER LIVING
... THROUGH CHEMISTRY

For safety underfoot, specify floor wax made with

LUDOX®
Colloidal Silica

LINDANE

...The **BEST** for P.C.O.'s

ORTHO Lindane offers

- High efficiency factor
- Excellent control of wide variety of insects
- Ease of formulation
- 100% gamma isomer
- Combines effectiveness with economy

Attention P.C.O.'s:

ORTHO Lindane is high in purity — can be purchased in prepared formulations under the ORTHO brand name of ISOTOX. A variety of ISOTOX formulations in liquid, wettable and concentrate form are available for P.C.O.'s.

Call your nearest ORTHO sales office for full details and free explanatory literature.

CALIFORNIA SPRAY-CHEMICAL Corp.

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World leader in
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SCIENTIFIC PEST CONTROL

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THE ORIGINAL QUATERNARY AMMONIUM GERMICIDE

Sterling-Winthrop
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Research on Roccal, the original quaternary ammonium germicide, is now being conducted in the impressive structure shown above. Here a large staff of scientists working with the most modern equipment, is continually striving to improve existing Sterwin products and develop new products.

IT ALWAYS PAYS TO USE THE BEST

Use only the original quaternary ammonium germicide, *genuine* Roccal, in your compounds and formulations. Then you can be sure of potency, uniformity, quality and stability.

NOW OFFERED TO
MANUFACTURERS IN
50% CONCENTRATION

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Branches in principal cities throughout the United States

In proper dilutions

ROCCAL is:

POTENT
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NON-POISONOUS
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NON-IRRITATING
TO SKIN

Last call for the 1955

BLUE BOOK

**Edition of
SOAP & CHEMICAL SPECIALTIES**

IF you are interested in an advertising position facing one or more of your products, let us know immediately. If the position is open, we shall be glad to reserve it for you. But, don't wait another minute! The deadline is close at hand and there has been a big demand for 1955 BLUE BOOK positions.

The 1955 BLUE BOOK will be out April 1, and will go to all subscribers

to SOAP & CHEMICAL SPECIALTIES.

For 26 years, the BLUE BOOK has been the standard buying guide for the field of soap and detergent products, aerosols, floor waxes and other floor products, and other chemical specialties and janitor supplies and equipment. Its advertisements and listings have produced thousands of inquiries and orders.

MAC NAIR-DORLAND COMPANY

254 West 31st Street

New York 1, N. Y.

Said the fly to the flea,
"This is killing me,
But it smells so good;
tell me why."

Said the flea,
"Be content,
It's an **ORBIS** scent;
What a beautiful
way to die."



If your product knocks 'em
dead, let **ORBIS** perfume it

Use **ORBIS** odors
in your deodorizers, too



ORBIS Perfume Concentrates save both ways. Write today to

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CHICAGO
BOSTON
MEMPHIS

HONESTLY, IT'S THE BEST POLICY!

WE KNOW, because for over 45 years our ONLY POLICY has been to maintain QUALITY OF PRODUCT — Times and conditions may change, but Baird & McGuire have never altered their principle of compounding only the finest of products in the Industrial and Household Cleaner, Disinfectant and Insecticide field!

Coal-Tar Emulsifiable Disinfectants

Synthetic Pine Disinfectants

Pine Oil Disinfectants

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New Odorless No-Roma

Mint-O-Phene

Cresol Compounds

Blue Label Bac-Trol

Red Label Bac-Trol

Pyrethrum Type Pes-Tox

Water Miscible DDT No. 65

Pyrethrum Concentrate No. 6

Vaporizing Insecticide

B-M Special Cleaner

S-D Cleaner

Wool Wash

Dish Washing Compound

Weed Killers

Motor Wash

Engine Cleaner

Creosote Oil

Closet Chemical

Red Mite Destroyer

Cresylic Acid

Tic-Tox

Insect Repellent

Flame Retardant

Cresylic Disinfectants

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Crude Carbolic Acids

Larvicides — Fresh and Salt Water

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Degreasers

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BAIRD & McGUIRE, INC.

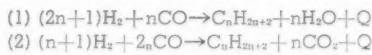
HOLBROOK, MASSACHUSETTS

FISCHER-TROPSCH WAXES . . .

Their production, properties and uses

By Charles J. Marsel*, Department of Chemical Engineering, New York University

THE Fischer-Tropsch synthesis had its origin in the observation made by Franz Fischer and Hans Tropsch in Germany, in 1923, that carbon monoxide and hydrogen, when passed over alkalized iron turnings at a pressure of 100 atmospheres and 400°C, produced a mixture of liquid hydrocarbons with some oxygenated compounds. Reactions producing paraffinic hydrocarbons may be shown as follows:



Q, the heat of reaction is of great significance, since the removal of this heat during the reaction presents one of the most difficult engineering problems of the process. The magnitude of the heat release is considerable, as indicated by the fact that formation of one pound of *n*-decane at 200°C by reaction (1) releases 4,880 BTU, and by reaction (2) releases 6,090 BTU.

Much of the early research work was concerned with the development of a successful and economical catalyst. As finally developed commercially by the Ruhrchemie A. G. in Germany in 1935-40, the process consisted of compressing "synthesis gas" (two volumes of hydrogen to one of carbon monoxide) to about seven atmospheres and passing it through a granular bed of cobalt catalyst at 185-205°C. The major products were wax, hydrocarbon oil, water and gaseous hydrocarbons such as methane. The hydrocarbons were used as fuels for the

German war economy. Post-war research has continued on the process in both the United States and Germany. In the latter country, present economics have emphasized the production of waxes as a major product, which is easily possible by an adjustment of process conditions.

Aside from German developments, a new Fischer-Tropsch plant using coal as raw material is being erected in South Africa. The wax plant unit will produce two main types of hydrocarbon wax: a low melting point petroleum type paraffinic wax and a higher melting point (105°C) hard wax.

Operation of F-T Process

ALL of the German Fischer-Tropsch plants in 1938-1944 operated according to the Ruhrchemie process, using a Co — ThO₂ — MgO — kieselguhr catalyst (100 : 5 : 8 : 200 parts by weight).

In the preparation of this commercial catalyst, a hot solution

of the nitrates of cobalt, thorium and magnesium was mixed with a hot sodium carbonate solution. The required amount of dry kieselguhr was immediately stirred in, and the slurry was filtered and washed with hot distilled water. The washed cake was extruded, and the product was dried and screened. The finished catalyst, obtained in one to three mm. granules, was reduced in thin layers by a rapid stream of hot, dry hydrogen containing 25 percent nitrogen.

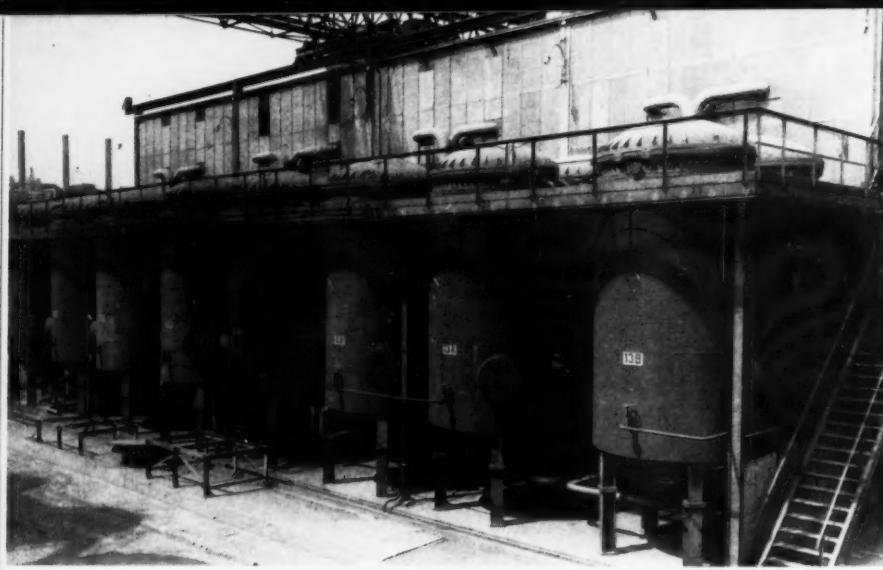
The process operated at 180-200°C, with either one or 10 atmospheres pressure, and with two or three stages with product recovery after each stage. Fig. 1, (p. 134) shows the flow scheme for a typical plant, that of the Ruhrchemie, A. G.-Ruhrbenzin A. G. plant at Sterkrade.

In this plant, the medium pressure cycle used a H₂/CO ratio of about 1.5 for the three stages of the synthesis; the ratio was

Plant for production of watergas.



*Paper presented during 41st annual meeting, C.S.M.A., New York, Dec. 7, 1954.



Synthesis pressure reactors (partial view)

maintained by introducing the requisite amount of "converted" water gas before each stage. In all plants in the Ruhr, synthesis gas was manufactured from coke in standard design "blue water-gas" generators. In order to obtain the higher ratio of hydrogen to carbon monoxide required for the standard Fischer-Tropsch operation, it was necessary to pass a portion of the water gas, mixed with steam, through converters to obtain more hydrogen by means of the "water gas shift", through reaction of the carbon monoxide and steam. At the Krupp Fischer-Tropsch plant at Wanne-Eickel, there is a large commercial installation of the Krupp-Lurgi process for the manufacture of low-temperature coke. Most of this coke is gasified in blue water gas machines, and it yields a H_2/CO ratio of 1.35, which is closer to the desired ratio for synthesis than is obtained from high temperature coke.

The Fischer-Tropsch process

requires synthesis gas in which the total sulfur does not exceed 2.0 mg. per cu. meter. Sulfur originally present as H_2S and organic sulfur must be removed; H_2S is removed by reaction with iron oxide, and organic sulfur by passage over a special alkalinized iron oxide catalyst which oxidizes the organic sulfur.

The large amount of heat generated by the reaction must be removed. This is usually done by means of cooling water. The reactors in the medium pressure operation are essentially similar to tube boilers, except that the tubes are double, with the catalyst contained in a narrow annulus between the two concentric tubes. The inner tube is connected with the boiler space so that it, too, is filled with cooling water. Characteristics of the reactor are shown in Table I.

Ruhrbenzin at Sterkrade-Holten operated about 48 atmospheric pressure reactors and 72 medium pressure reactors. For stage

1 and 2 of the medium pressure operation the inlet gas rate is 1000 cu. m. per hr. per reactor, the temperature 180-200°C, and the gas contraction 50 percent. In stage 3, higher rates and lower temperatures are used. In stage 3, 150 g. of C_3 and higher hydrocarbons are obtained per cu. m. of 1.5 $H_2 + 1 CO$. Products obtained are shown in Table II.

Product Distribution

THE average distribution of the liquid and solid products obtained in the Ruhrchemie process formerly operated was as follows (wgt. per cent): gasoline, 35-60; Diesel oil, 30-35; wax, 10-30; depending on pressure. In the Ruhrchemie Lurgi process as presently operated, the wax fraction may be as high as 70 percent of the total product. The early German objective in studying the Fischer-Tropsch synthesis was to produce synthetic gasoline and motor fuel. During the ensuing years it became apparent that these products were poorer in quality than the corresponding fractions from the hydrogenation of coal. It was realized that the higher molecular weight fractions were an excellent source of organic chemicals. The paraffin fraction was of considerable importance during World War II as raw material for the manufacture of synthetic detergents, soaps and lubricants. At the end of the war, key personnel of companies operating the Fischer-Tropsch plants were strongly of the opinion that under conditions of normal German peacetime economy, the process should be utilized for the production of aliphatic chemicals and special products such as waxes.

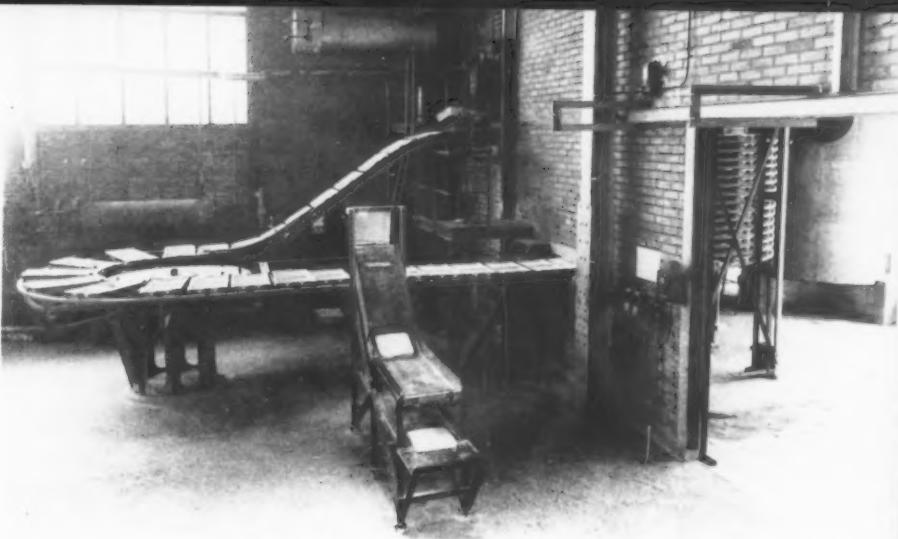
The paraffin fraction from the conventional Ruhrchemie FT-synthesis, constituting 10-30 percent of the hydrocarbon product, comprises waxes the melting points of which ranged from 40° to 110°C and having molecular weights ranging up to 2000. At the Ruhrchemie works at Sterkrade-Holten, the residue boiling above 320°C from the

TABLE I. Ruhrchemie Reactor Characteristics

| | Atmospheric Pressure | Middle Pressure |
|---|----------------------|-----------------|
| Weight, tons | 45 | 45 |
| Volume (total), cu. ft. | 650 | 950 |
| Volume (catalyst), cu. ft. | 350 | 350 |
| Finned surface, sq. ft. | 38,700 | None |
| Tube surface, sq. ft. | 4,300 | 22,600 |
| Capacity, bbl. of primary product per day | 18 | 18 |

distillation of the primary product of the medium-pressure synthesis was separated by vacuum fractionation into two distillates and a residue distilling above 460°C (at 760 mm.). The first fraction was "sweated" to give "soft wax" (m.p. 40°C); the second fraction was sweated to yield "slack wax" (m.p. 50-52°C). The residue, crude "hard wax" m.p. 90°C, was refined with bleaching earth and sold as refined wax. By blending 30 parts of this wax with 70 parts of soft wax, a product sold as "refined plastic wax" was obtained. By similar treatment of the residue boiling above 320°C obtained from distillation of products from the normal-pressure process, and the wax extracted from the catalyst by solvent, further quantities of soft wax and a moderately hard wax sold as catalyst wax, m.p. (87-91°C) were obtained. Properties of the Ruhrchemie F-T waxes are shown in Table III.

The bulk of the soft wax or "Gatsch" was oxidized to fatty



A wax casting machine

acids. The hard and slab waxes were used in the manufacture of polishes and candles. The plastic wax was used for the impregnation of paper and cardboard.

Further processing has involved treatment to obtain fractions with a narrower range of properties, either by vacuum distillation or solvent leaching. Subsequently these fractions may be oxidized catalytically with air in much the standard

fashion to obtain oxidized Fischer-Tropsch waxes with a variety of interesting properties.

As indicated earlier, one advantage of medium pressure operation was the much higher proportion of wax in the product. High wax yields were also favored by the presence of manganese and a low kieselguhr content in the catalyst. The advantage of the use of iron catalyst rather than cobalt is that it imparts greater flexibility to product distribution. By use of an iron catalyst and the proper reaction conditions, a very large fraction of wax may be obtained. For example, a comparison of yields of hard wax is: normal pressure cobalt—3 per cent; medium pressure cobalt—25 percent; iron—50 percent.

When using a ruthenium catalyst, it was said that waxes obtained melted in the range 50-135°C and had molecular weights as high as 23,000. Sixty-five percent of the product obtained at 100 atm. pressure was snow-white wax in the crude state, melting at 118-120°C.

TABLE II. Product at Ruhrbenzin, Sterkrade-Holten

| | Weight Per Cent of Total Product | Per Cent of Olefins in Fraction |
|---|---|--|
| Gasol (C ₅ +C ₆) | 10 | 40 |
| C ₅ to 170°C* | 25 | 24 |
| 170°-280° | 30 | 9 |
| 280°-340°C (soft wax) | 20 | — |
| Residue (hard wax) | 15 | — |

* Motor octane number about 45.

TABLE III. Properties of Ruhrchemie Waxes

| Properties | Soft Wax | Slack Wax | Catalyst Wax | Refined Plastic Wax | Refined Hard Wax |
|---|-------------|--------------|-----------------|---------------------------|------------------------|
| Setting point, °C (rotating thermometer) | 42.5 | 50-52 | 87-91 | 75 | 90 |
| Melting point, °C | 44.0 | 53 | — | About 85 | 110 |
| Flow point, °C | 40.2 | 48-49 | — | 77 | 98 |
| Drop point, °C | 41.8 | 49-50 | — | 79 | 99 |
| Iodine number | — | 2.5 | 3.5 | 2.0 | 2.0 |
| Acid number | 0.14 | 0.03 | — | 0.05 | 0.1 |
| Saponification number | 0.35 | 0.6 | 1.0 | 0.9 | 0.8 |
| Penetrometer number | — | 35.0 | About 30 | 17.0 | 4.0 |
| Mean molecular weight | — | 380 | — | 500 | 600 |
| Mean carbon number | — | 27 | — | 36 | 43 |

F-T Waxes Available in U.S.

THE F-T-Waxes and their derivatives, the "Duroxon" mineral waxes are Fischer-Tropsch waxes now available in this country. These waxes are known in Europe as "Ruhr-Waxes", and are manufactured by Krupp Kohlechemie G.m.b.H. They are distributed in this country by Krupp's agent, Dura

TABLE IV. Properties of Duroxon FT 200 and FT 300

| Property | FT 200 | FT 300 |
|---|---------------|----------------|
| Melting point | 100°C | 105°C |
| Solidification point (rotating thermometer) | 92 to 95°C | 98 to 102°C |
| Softening (drop) point (Ubbelohde) | 106 to 108°C | 110 to 112°C |
| Penetration (100 g/5"/25°C) | 3 to 5 | below 1.0 |
| Iodine number | 3 to 5 | 3 to 5 |
| Acid number | below 0.1 | 0 |
| Saponification number | below 0.5 | 0 |
| Hydroxyl number | below 1 | 0 |
| Density at 20°C | about 0.925 | about 0.933 |
| Density at 130°C | about 0.75 | about 0.75 |
| Toluene insoluble, per cent | 0 | 0 |
| Percentage of ash | below 0.01 | below 0.01 |
| Flash point | about 218°C | about 280°C |
| Fire point | about 241°C | about 310°C |
| Viscosity at 130°C | about 7.4 cSt | about 10.7 cSt |
| Color | white | white |

Commodities Corp., New York City.

The waxes which are presently available are as follows:

Hard Waxes, Straight Hydrocarbon

FT-Wax 200
FT-Wax 300

Hard Waxes, Duroxon series

Duroxon J-324
Duroxon R-11
Duroxon R-21
Duroxon H-110
Duroxon C-60A

Soft Waxes, Duroxon series

Duroxon D-150
Duroxon D-250

Hard Mineral Waxes—FT-200 and FT-300: These hard waxes consist entirely of aliphatic hydrocarbons of high molecular weight, some of which are branched-chain products having comparatively short side-chains. The properties and characteristics of these waxes are the result of uniform processing methods and their special chemical structure.

Table IV lists some properties of these two waxes. Attention is drawn especially to their high melting and solidification points and their hardness (low penetration numbers).

The addition of waxes FT 200 and FT 300 in small quantities raises the melting point of paraffin

wax very considerably, and also increases the hardness of paraffin wax. Figure 2 shows this effect graphically.

Hard waxes FT 200 and FT 300 are compatible not only with mineral waxes but with most vegetable waxes and resins in all proportions. The mixtures retain the favorable hardness and high melting values of the FT waxes, and for that reason they are useful materials for raising the melting point and hardness of any given wax.

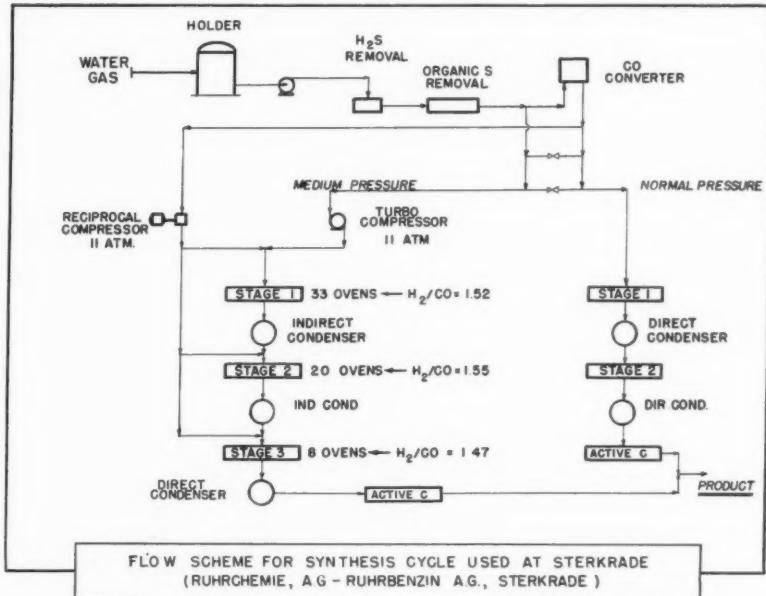
FT 200 and FT 300 are solu-

ble hot in the common solvents such as hydrocarbons like benzene, naphtha and turpentine, as well as those containing chlorine, such as carbon tetrachloride and trichlorethylene. In general, their solubility decreases in direct proportion to the oxygen content of the solvent, so that methyl and ethyl alcohols have very little solvent action.

Both FT 200 and FT 300 possess outstanding electrical properties, as shown in Table V.

Applications: The high melt-
(Turn to Page 157)

Figure 1. Flow scheme for a typical Fischer Tropsch plant, that of Ruhrchemie, A.G.-Ruhrbenzin, A. G. plant at Sterkrade.



Propellants for low pressure

COSMETIC AEROSOLS

THE packing of cosmetic products in aerosol form has introduced many new and profitable products. The more recent use of glass containers has markedly enlarged the scope of cosmetic products that can be packaged as aerosols. However, glass containers place a few limitations on the latitude of aerosol formulations. On the other hand, they have removed some of the disadvantages connected with the use of metal containers.

It is the purpose of this paper to present the physical characteristics of certain propellant-solvent systems which can be used in formulating aerosol colognes and related cosmetic products for packaging in glass containers. In presenting these data, the experimentally measured physical properties

By Fred T. Reed*

E. I. du Pont de Nemours and Co.

have been plotted on triangular coordinate paper for seven different solvent-propellant systems. Each of these triangular charts gives a complete picture of the pressure, spray characteristics, and solubility of the system indicated. From these charts it is possible to select a wide variety of compositions which may be used to develop aerosol colognes and related cosmetic products for packaging in glass containers. Much of the trial and error work in initial development of such products can be eliminated by use of these charts.

Of the physical characteristics described on these charts, pressure is probably the most important limitation in the packaging of aerosol colognes in glass bottles. From a safety standpoint it is very desirable that the container pressure

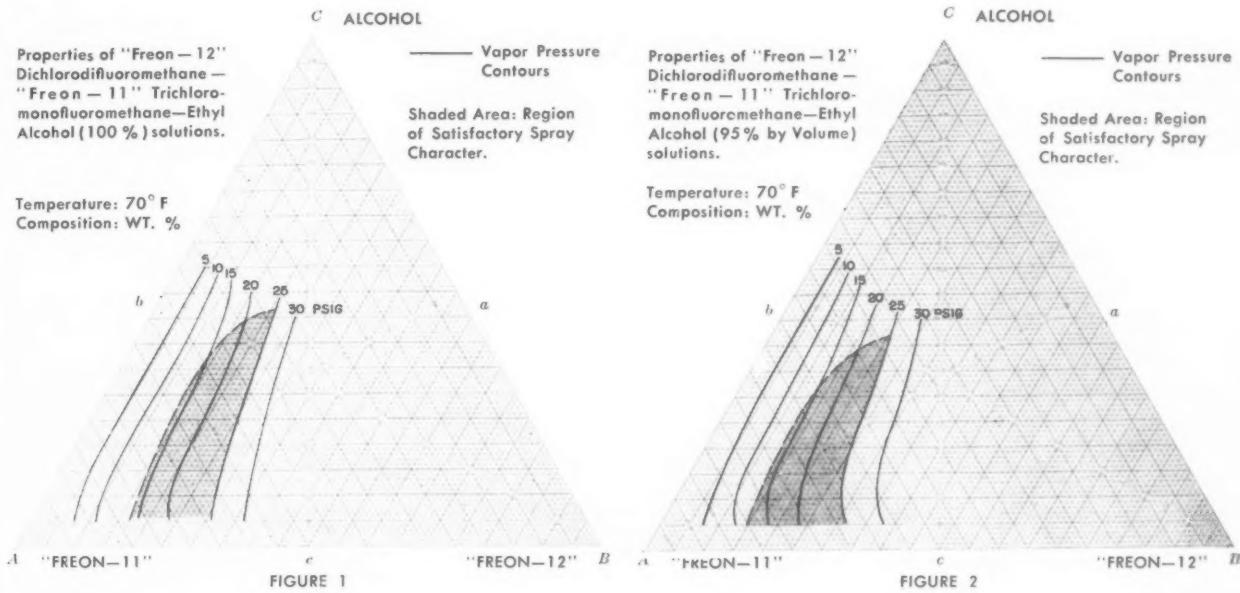
be at a minimum. In addition, the ICC regulations apply definite limitations to nonflammable products having pressures in excess of 25 psig. at 70°F. Even more stringent regulations apply to flammable products.

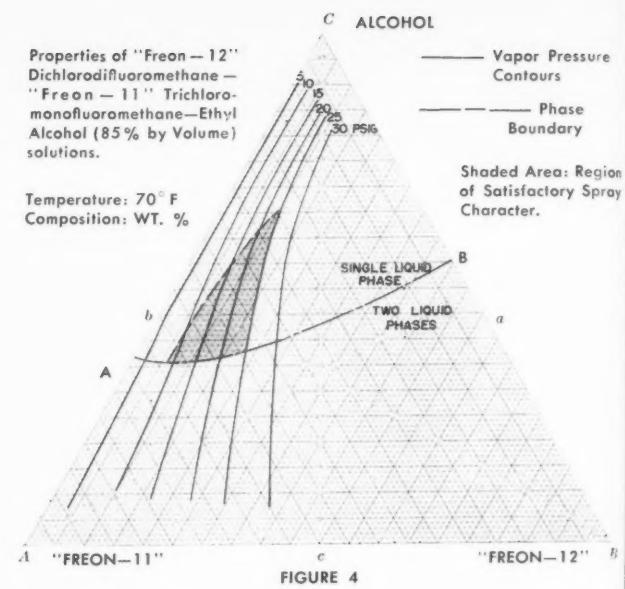
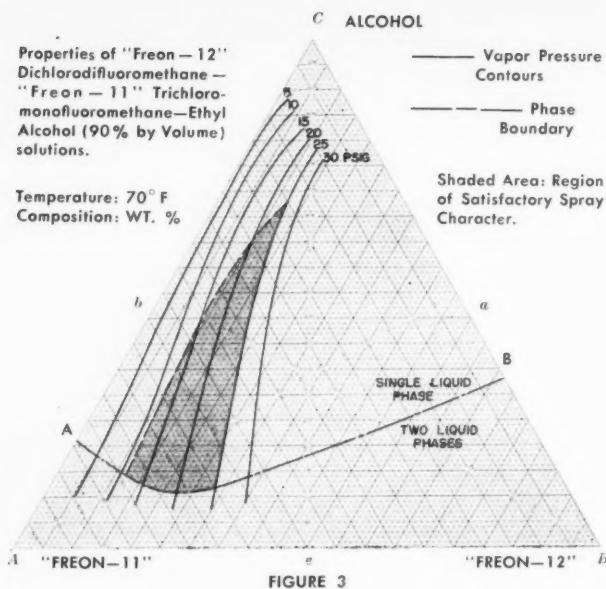
The spray pattern delivered by the formulation must be suitable to the application concerned. An aerosol cologne should be neither so wet that it is a stream of liquid nor so dry that it fails to deposit any liquid on the surface sprayed.

The solubility of the system should be such that the particular alcohol-water composition used is completely soluble in the propellant. Similarly, the perfume compound should be compatible, both in terms of solubility and odor stability, with the solvent-propellant system employed.

Since colognes, by their nature, contain appreciable quantities

*Paper presented at 41st annual C.S.M.A. meeting, New York, Dec. 7, 1954.





of alcohol, the corresponding aerosol form may be flammable by ICC and C.S.M.A. standards. The flammability of a formulation should be tested and the appropriate measures taken if the tests are positive.

Experimental, Discussion

As pointed out above, in order to obtain a clear and composite picture of these problems, considerable data have been collected on the pressures, spray characteristics and solubilities of alcohol-propellant systems. These data are plotted on the ternary diagrams, Figures 1 through 7. Each of the figures represents a solvent-propellant system composed of ethyl alcohol and two "Freon" fluorinated hydrocarbon propellents. The following systems are included.

1. "Freon-12" dichlorodifluoromethane - "Freon-11" trichloromonofluoromethane - alcohol (100% by volume)
2. "Freon-12" - "Freon-11" - alcohol (95% by volume)
3. "Freon-12" - "Freon-11" - alcohol (90% by volume)
4. "Freon-12" - "Freon-11" - alcohol (85% by volume)
5. "Freon-12" - "Freon-114" dichlorotetrafluoroethane - alcohol (100% by volume)

6. "Freon-12" - "Freon-114" - alcohol (95% by volume)

7. "Freon-12" - "Freon-114" - alcohol (90% by volume)

All compositions are in terms of weight per cent. All measurements were made at 70°F.

Materials

THE "Freon" fluorinated hydrocarbon propellents used in preparing the experimental samples contained less than one percent by volume of air in the vapor phase.

The various alcohol-water mixtures used in making the test solutions were prepared as carefully as possible. U.S.P. grade anhydrous ethyl alcohol was diluted with distilled water until the specific gravity of the resultant solution, measured by a hydrometer, agreed with the published data for that solution. The compositions of the alcohol-water solutions are given as percentage by volume.

Pressure

THOSE lines which run approximately vertically on the charts are vapor pressure contours. Compositions falling along these lines will have the indicated vapor pressures at 70°F. The pressures of intermediate compositions may be

determined by interpolation between the curves. For example, on Figure 5, a composition of 40 percent alcohol (100 percent), 15 percent "Freon-12" dichlorodifluoromethane and 45 percent "Freon-114" dichlorotetrafluoroethane has a vapor pressure of approximately 23 psig. at 70°F.

In developing the vapor pressure data for these charts, a method was used which was intended to be reproducible and at the same time to approximate the conditions which one could expect in commercial loading operations provided a reasonable effort was made to exclude air from the container. An aerosol can was loaded with the desired amount of alcohol, chilled to 32°F., swept gently with vapor of "Freon-12" to displace the air in the head space, loaded with the desired amount of propellant and immediately capped with a valve having no standpipe. During loading, the temperature of the propellant was maintained at approximately -10°F. The loaded can was brought to a temperature of 70°F., agitated, and the pressure determined. Pressure measurements were made through the can valve using a gauge and system of connecting lines which were preloaded with

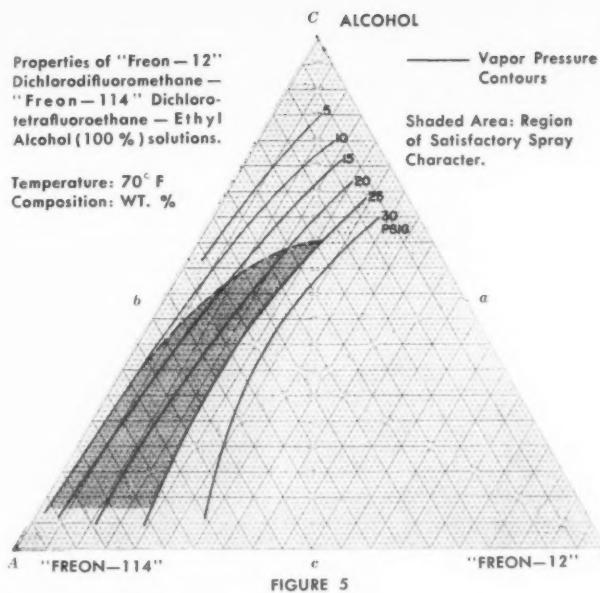


FIGURE 5

nitrogen to approximately the pressure in the can.

On the average, 30 to 40 individual compositions were measured to obtain sufficient data to construct the pressure contours for each propellant-solvent system covered by Figures 1 through 7. The accuracy of each pressure determination was within one psi, and the overall reproducibility of the pressure curves is estimated to be one psi. In view of the effort made to eliminate air in these determinations, it is likely that, by ordinary laboratory techniques, one would get slightly higher pressures than those indicated by the charts.

In Figures 1 through 4, for the "Freon-12" dichlorodifluoromethane - "Freon-11" trichloromonofluoromethane - alcohol solutions, there is a general shift of the pressure contour curves to the left as the percentage of alcohol is decreased. This indicates an increasing deviation from Raoult's Law as more water is added to the solution.

Spray Pattern

THE compositions which were tested for pressure were also used to determine spray pattern at 70°F. Two qualitative tests were employed. In the first, the formula-

tion was sprayed between the observer and a good source of light and, in the second, it was sprayed from a distance of one foot onto the observer's hand. If a reasonable degree of atomization, free of streaming, were observed in the first test, the spray was judged satisfactory. In the second test, a spray was considered satisfactory if the hand was wet from the spray but no excessive deposit of liquid was obtained from a short burst of spray. A composition was judged satisfactory if it satisfied both tests. These tests are admittedly quite qualitative and subject to the observer's personal opinion. They are, however, fast and reasonably reproducible.

Compositions which give satisfactory spray patterns are indicated in Figures 1 through 7 by the shaded areas. The right boundary in all cases is the 25 psig. curve, since the compositions are designed for use in glass containers. If a metal container is used, where higher pressures are permitted, the region of satisfactory spray pattern can be extended farther to the right. The left boundary is a region of borderline spray characteristics and should not be considered as sharply defined. The lower boundary in

Figures 3, 4, 6 and 7 coincides with the phase boundary which will be discussed later. In Figures 1, 2 and 5, the lower boundary is again a borderline region where the spray becomes very dry.

It should be emphasized that the spray testing was conducted at 70°F. Lower testing temperatures will reduce the area of satisfactory sprays considerably on these charts. Conversely, an increase in the area would result at higher testing temperatures.

Solubility

IN Figures 3, 4, 6 and 7 the roughly horizontal lines labelled AB are phase boundaries. The compositions which lie above these curves are single liquid phase systems, representing complete mutual solubility of the three components. Compositions lying below the phase boundaries contain two liquid phases indicating only partial solubility of the propellant in the alcohol. The temperature at which these phase boundaries are applicable is 70°F. At higher temperatures the curves will shift downward.

There is a second region of miscibility applicable to these systems, occurring as a narrow band just above the 0 percent line of the alcohol. Since this area is not of practical interest, no attempt was made to define it.

No phase boundary appears in Figures 1 or 2 since "Freon-12" dichlorodifluoromethane and "Freon-11" trichloromonofluoromethane are miscible with 100 and 95 percent alcohol at 70°F. The somewhat poorer solubility of "Freon-114" dichlorotetrafluoroethane in aqueous alcohol is indicated by the fact that only the 100 percent alcohol system (Figure 5) is completely miscible.

The method employed for determining the points from which the phase boundaries were constructed was essentially that of titrating known compositions of two components with the third until a cloud point was reached. The temperature of the solutions was

(Turn to Page 163)

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Cyclethrin

A new synthetic insecticide said to be more readily synergized by the common pyrethrins synergists than allethrin.

A NEW insecticide, cyclethrin, 3-(2-cyclopentenyl)-2-methyl-4-oxo-2-cyclopentenyl chrysanthemummonocarboxylate, has been synthesized which possesses many of the attributes of natural pyrethrins. Toxicity to mammals is of the same nature as that of allethrin and pyrethrins. Cyclethrin is synergized by the common pyrethrins synergists more readily than allethrin.

Insecticide tests have shown that, with synergists piperonyl butoxide and sulfoxide, 1.6 to 1.7 times the amount of cyclethrin as pyrethrins is needed to provide excellent Grade AA space sprays for house flies; double the dosages of allethrin and piperonyl butoxide are required to equal the pyrethrins sprays. Tests on house flies with low-pressure aerosols containing synergists with no DDT indicate 1.8 times as much cyclethrin and 3.7 to 5.8 times the amount of allethrin are required to equal pyrethrins. When DDT is added to such mixtures the knockdown and kill of house flies by the allethrin formulations is improved so it equals that of cyclethrin.

Sulfoxide and piperonyl butoxide synergize cyclethrin in oil contact sprays better than allethrin for knockdown of German roaches. Cyclethrin with sulfoxide provides higher kill when compared with

similar allethrin mixtures.

Synergized cyclethrin shows considerable promise for control of biting flies attacking dairy cows when used in oil-space and repellent-type sprays, in water-based sprays and in treadle-sprayer concentrates.

Aqueous sprays containing certain synergists activate cyclethrin to a greater degree than allethrin for control of bean aphids, spider mite species, and Mexican bean beetle larvae.

Cyclethrin was found to be equal to allethrin when the insecticides were used with and without synergists in dust mixtures for killing rice weevils on wheat grain.

Introduction

PYRETHRUM extracts have been used in household and livestock sprays for over 30 years because of their quick paralytic effect on insects and relative safety for mammals. By laborious and brilliant effort the various pyrethrins and cinerins were isolated and identified by LaForge and his co-workers. In due course of time the Bureau of Entomology and Plant Quarantine chemists, Schechter,

Green, and LaForge (7, 8) were able to synthesize the allyl homologue of cinerin I which was very similar chemically to one of the principal ingredients in pyrethrum. This material was given the name of allethrin.

Allethrin has been available commercially since 1950 but has been found to have three limitations that restrict its usefulness. It does not have as quick a paralytic effect on flies as natural pyrethrins, it is not synergized effectively by the common pyrethrins synergists, and it is somewhat less effective on agricultural insects.

In view of these limitations of allethrin and the obvious need of the United States for a domestic source of a safe pyrethrins-like insecticide that would free us of dependence upon foreign sources for pyrethrum, a systematic search was begun among the compounds related to allethrin. One of these prepared by substituting a cyclopentenyl group for the allyl chain to give 3-(2-cyclopentenyl)-2-methyl-4-oxo-2-cyclopentenyl chrysanthemummonocarboxylate proved to be of particular interest. This chemical, designated in this paper by the name of cyclethrin, possessed low mammalian toxicity (2), use found to be similar to allethrin and pyrethrins in its activity on house flies, and was synergized more readily than allethrin with the common pyrethrins synergists. The present report is concerned with a brief description of certain insecticidal and chemical aspects of cyclethrin.

**By Harry L. Haynes¹,
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Andrew J. Borash^{3*}**

¹Based on paper presented at 40th midyear meeting C.S.M.A., Cincinnati, May 10, 1954.

²Entomologist, and ³Assistant Entomologists, Boyce Thompson Institute for Plant Research, Inc., Yonkers 3, N. Y. and Carbide and Carbon Chemicals Co., New York 17, N. Y.

⁴Research Chemists, Research and Development Department, Carbide and Carbon Chemicals Co., South Charleston, W. Va.



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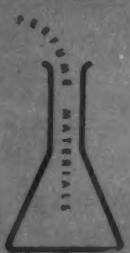
But with the free dispersion of product into the aerosol cloud, a formerly unnoticed objectionable odor is magnified many-fold, often into a real disadvantage. Cosmetics, paints, insecticides, waxes, can be effectively improved odor-wise for aerosol packaging.

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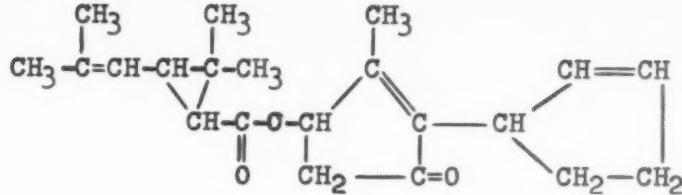
Materials and Methods

Description of the Chemical:

CYCLETHRIN was synthesized by esterification of *dl-cis* and *trans* chrysanthemummonocarboxylic acid with *dl*-2-(2-cyclopentenyl)-3-methyl-2-cyclopenten-4-ol-lone. The product was a mixture of eight possible stereo-isomers of the molecular formula shown at right. The laboratory samples have been prepared which varied in purity from approximately 80 to 95 per cent as determined by an adaptation of the ethylene diamine method of analyzing allethrin (5). (Hogsett, Kacy, and Johnson advised the authors in a personal communication that the allethrin method gave reliable results provided the ethylene diamine reaction was permitted to proceed for three hours instead of two.)

Cyclethrin of a purity of 95 percent is a viscous, straw-colored liquid with a specific gravity of 1.020 at 20°/20° and a refractive index (n_D -30) of 1.5170. Boiling points were not obtained because the material decomposes at elevated temperatures. Molecular distillation was accomplished with a spinning-disk type apparatus at a rotor temperature of 100° C. at an indicated pressure of .02 mm. of mercury. The material has been found to be compatible with other insecticides, and diluents commonly used in household oil sprays, aerosols and livestock sprays.

Formulation. The cyclethrin was compared with pyrethrins (standard 20 per cent concentrates in petroleum distillate or OTI) and commercial grade allethrin of 75 to 88 percent purity from Carbide and Carbon Chemicals Co. Oil sprays were prepared by diluting the concentrates in refined petroleum distillate. Low-pressure aerosols were prepared by mixing the 15 percent nonvolatile portion containing insecticides, petroleum distillate and approximately five percent methylated naphthalene solvents with 85 percent propellents. The propellents contained equal parts of trichlorofluoromethane and dichlorodifluoromethane. The mixture was prepared in a 12-ounce beer-can type dispen-



ser equipped with a pressure release valve. Aqueous sprays, to be used against crop pests, were prepared by emulsifying the oil concentrates. The emulsifier, "Tergitol Dispersant NPX" (an alkylphenyl polyethylene glycol ether, made by Carbide and Carbon Chemicals Co.) was used at the rate of 10 percent by weight of the insecticide mixture. Acetone to equal 10 percent of the final volume of the aqueous spray was added as a solvent. Dusts for use on wheat grain were prepared by impregnating the wheat flour diluent with insecticides from acetone slurries.

Test method. Tests on the common house fly, *Musca domestica* L., were made according to the large group Peet-Grady method (6). Low-pressure aerosol tests on house flies were conducted in the Peet-Grady chamber according to the large group Aerosol Test Method for Flying Insects (1).

Spray tests with the male German cockroach, *Blattella germanica* L., were conducted according to the Official Cockroach Spray Method of the Chemical Specialties Manufacturers Association (3).

The apparatus used and conditions under which sprayed plants were kept for the tests on Mexican bean beetle larvae, *Epilachna varivestris* Muls., bean aphid, *Aphis fabae* Scop., and greenhouse red spider mite species, *Tetranychus bimaculatus* Harvey and *T. altheae* McGregor have been described previously (4). For Mexican bean beetle larvae and red spider mites, bean (*Phaseolus vulgaris* L.) plants of the variety "Tendergreen" were sprayed on a turntable at 40 pounds pressure until the plants were thoroughly wetted and the spray was observed to run off leaves. One

hour after spraying, each plant was infested with four third-instar Mexican bean beetle larvae by enclosing the leafy portion of the plant and the larvae in a spherical wire cage. Observations for mortality and amount of feeding were taken after 72 hours.

In the red spider test, each plant was infested with approximately 100 adults 24 hours prior to spraying. Counts of mortality were taken 48 hours after the insecticidal sprays were applied. For the aphid tests, by the spray method, clay pots 2.5 inches in diameter containing six to 10 *Nasturtium* plants infested with bean aphids were removed from a stock culture. The number of aphids to be tested was standardized at 100 to 150 adults and nymphs by trimming off plants containing excess aphids. The plants were then sprayed in the same manner as that described for mite testing. After spraying, the potted plants were placed on their sides in a Petri dish on a piece of white standard mimeograph paper which was previously ruled into squares to facilitate counting. The paper was ringed with Tanglefoot glue to prevent the test insects from escaping. Counts of the insects which had fallen to the paper and those that remained on the plants were made 24 hours after spray application. All percentage control or mortality figures were corrected for natural mortality in the untreated lots.

Grain protectant tests were made on wheat (*Triticum* sp.) to be infested with the rice weevil, *Sitophilus oryzae* (L.). Two-ounce lots of wheat were treated, at the rate of 50, 100 and 200 pounds per

(Turn to Page 147)

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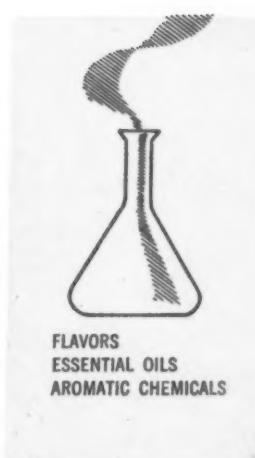
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1000 bushels of wheat, with dusts containing 0.8 to 1.2 percent of toxicant and 1.1 to 1.6 percent piperonyl butoxide or sulfoxide in whole-wheat flour diluent. Thirty-day-old weevils were then added to each jar (two replicates per concentration) and records were taken on survival after seven days at room temperature.

Field repellency tests were made with flies on Guernsey and Holstein cattle. The animals in a herd heavily infested with populations of house flies, horn flies [*Siphona irritans* (L.)], or stable flies [*Stomoxys calcitrans* (L.)] were sprayed with a quart of aqueous emulsion or two fluid ounces of oil solution. Animals received approximately 0.5 ml. dosages of oil concentrates two times daily in the treadle-sprayer application. Records were taken on infestations daily for treadle-sprayer applications, over a period of seven days for aqueous sprays and two days for oil solution, to determine severity of infestation.

Experimental Results

Space sprays on house flies:

THE relative performance of pyrethrins, allethrin and cyclethrin without synergists for knockdown and kill of the common house fly was determined. Large group Peet-Grady results for 24-hour mortality and three, five and 10-minute knockdown are shown in Table I.

The log probability curves in Figure 1 represent the average of

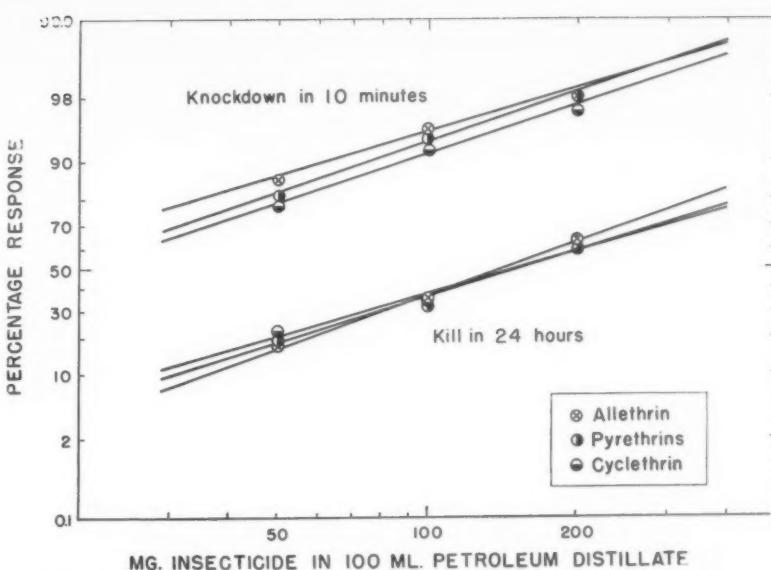


Figure 1. Dosage response of house flies to cyclethrin, pyrethrins, and allethrin in large group Peet-Grady tests. (No synergists used.)

TABLE I.—Effectiveness of pyrethrins, allethrin and cyclethrin in space sprays* for knockdown and kill of house flies.*

| Insecticide | Dose age** | % Knockdown | | | |
|-------------|------------|-------------|--------|--------|---------|
| | | 24 hrs. | 3 min. | 5 min. | 10 min. |
| Pyrethrins | 200 | 59 | 94 | 96 | 98 |
| | 100 | 33 | 87 | 91 | 94 |
| | 50 | 19 | 69 | 76 | 81 |
| Allethrin | 200 | 63 | 94 | 96 | 98 |
| | 100 | 35 | 88 | 92 | 95 |
| | 50 | 18 | 71 | 79 | 85 |
| Cyclethrin | 200 | 59 | 91 | 95 | 97 |
| | 100 | 34 | 78 | 87 | 92 |
| | 50 | 22 | 57 | 69 | 78 |
| OTI *** | | 36 | 91 | 93 | 95 |

*Figures for kill and knockdown are averages of 32 tests for pyrethrins, allethrin, and cyclethrin, and 171 tests for the OTI. Tests were conducted over the period from March 1952 to March 1954.

**Mg. of chemical in 100 ml. of refined petroleum distillate.

***Official Test Insecticide contains 100 mg. of pyrethrins in 100 ml. of refined petroleum distillate.

32 tests for each material at three concentrations: 50, 100 and 200 mg. in 100 ml. of refined petroleum distillate. Curves are presented for the three materials for 24-hour kill and 10-minute knockdown. These tests were run over a period of two years to take into account variation normally encountered in the Peet-Grady fly strain. Statistically there is no difference between materials for kill of the down flies in 24 hours, nor for 10-minute knockdown at dosages of 200, 100 and 50 mg. Pyrethrins and allethrin are slightly more effective at three minutes than cyclethrin at all three concentrations (Table I). They are also slightly better for five minute

TABLE II—Effectiveness of four synergists with cyclethrin and allethrin in space sprays for knockdown and kill of house flies.

| Insecticide (mg.) | Synergist (mg.) | No. of tests | % Knockdown | | | OTI Difference | |
|-------------------|------------------------|--------------|-------------|--------|--------|----------------|--------------|
| | | | 24 hrs. | 3 min. | 5 min. | 10 min. | Kill 24 hrs. |
| Cyclethrin 42 | Piperonyl butoxide 200 | 8 | 65 | 73 | 82 | 93 | +28 |
| Allethrin 42 | Piperonyl butoxide 200 | 8 | 45 | 76 | 83 | 90 | +8 |
| OTI | | 13 | 37 | 90 | 93 | 95 | -5 |
| Cyclethrin 50 | Sulfoxide 250 | 6 | 75 | 93 | 95 | 97 | +38 |
| Allethrin 50 | Sulfoxide 250 | 6 | 37 | 88 | 90 | 91 | 0 |
| OTI | | 8 | 37 | 93 | 95 | 98 | -4 |
| Cyclethrin 42 | n-Propyl isome 400 | 5 | 56 | 69 | 74 | 82 | +16 |
| Allethrin 42 | n-Propyl isome 400 | 5 | 42 | 66 | 71 | 79 | +2 |
| OTI | | 9 | 40 | 89 | 91 | 93 | -14 |
| Cyclethrin 30 | Compound 6266 1000 | 9 | 47 | 85 | 91 | 95 | +11 |
| Allethrin 30 | Compound 6266 1000 | 9 | 33 | 86 | 90 | 93 | -3 |
| OTI | | 14 | 36 | 92 | 94 | 95 | -2 |

*Mg. of chemical in 100 ml. of refined petroleum distillate.

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 OIL BOUQUET W.P. No. 400 (W)

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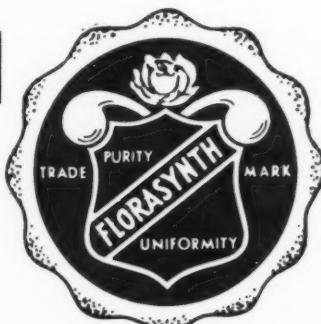
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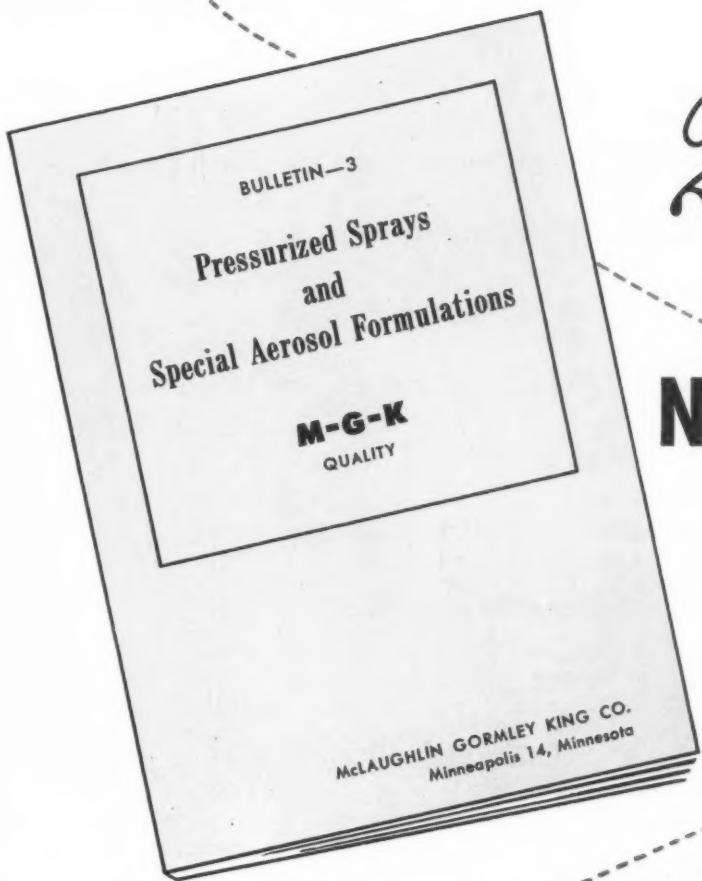
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TABLE III — Effectiveness of different ratios of sulfoxide with cyclethrin and pyrethrins in space sprays for knockdown and kill of house flies.*

| Insecticide** | | | % Knockdown | | | OTI Difference | | |
|---------------|-----------------------------|----------------------|-------------------|--------|--------|----------------|-----------------|----------------------|
| Name | Concen- tration (mg.) | Sulfoxide** (mg.) | % Kill 24 hrs. | 3 Min. | 5 Min. | 10 Min. | Kill 24 hrs. | Knockdown 10 Min. |
| Cyclethrin | 25 | 100 | 39 | 59 | 71 | 84 | -7 | -9 |
| | " | 200 | 52 | 61 | 74 | 86 | +6 | -7 |
| | " | 300 | 63 | 74 | 80 | 91 | +17 | -2 |
| | " | 400 | 72 | 69 | 83 | 91 | +26 | -2 |
| | 50 | 100 | 56 | 69 | 84 | 92 | +10 | -1 |
| | " | 200 | 71 | 74 | 87 | 94 | +25 | +1 |
| | " | 300 | 79 | 79 | 89 | 95 | +33 | +2 |
| | " | 400 | 87 | 82 | 91 | 96 | +41 | +3 |
| | 75 | 100 | 70 | 79 | 90 | 95 | +24 | +2 |
| | " | 200 | 77 | 81 | 91 | 96 | +31 | +3 |
| | " | 300 | 86 | 82 | 91 | 96 | +40 | +3 |
| | " | 400 | 93 | 85 | 92 | 97 | +47 | +4 |
| | OTI | | 46 | 88 | 91 | 93 | | |
| Pyrethrins | 25 | 100 | 45 | 74 | 83 | 91 | -1 | -2 |
| | " | 200 | 61 | 78 | 86 | 93 | +15 | 0 |
| | " | 300 | 78 | 83 | 92 | 96 | +32 | +3 |
| | " | 400 | 89 | 88 | 94 | 98 | +43 | +5 |
| | 50 | 100 | 65 | 83 | 91 | 95 | +19 | +2 |
| | " | 200 | 81 | 91 | 94 | 97 | +35 | +4 |
| | " | 300 | 94 | 91 | 96 | 98 | +48 | +5 |
| | " | 400 | 95 | 91 | 96 | 98 | +49 | +5 |
| | 75 | 100 | 79 | 89 | 93 | 97 | +33 | +4 |
| | " | 200 | 94 | 92 | 95 | 98 | +48 | +5 |
| | " | 300 | 95 | 93 | 96 | 98 | +49 | +5 |
| | " | 400 | 98 | 94 | 98 | 99 | +52 | +6 |
| | OTI | | 46 | 88 | 91 | 93 | | |

*Figures for synergist and toxicant are averages of 10 paired tests compared with 39 tests for the OTI.

**Mg. of chemical in 100 ml. of refined petroleum distillate.

knockdown at 100- and 50-mg. dosages.

In the evaluation of an oil spray by the large group Peet-Grady method, it is recognized that flies

sprayed with allethrin are not paralyzed as rapidly as those sprayed with pyrethrins. At three minutes, allethrin-sprayed flies are buzzing and spinning around on the floor as

compared with more nearly total paralysis for pyrethrins-treated flies. Cyclethrin resembles pyrethrins in its paralytic effect. Quicker im-
(Turn to Page 160)

TABLE IV—Effectiveness of different ratios of piperonyl butoxide with cyclethrin and pyrethrins in space sprays for knockdown and kill of house flies.*

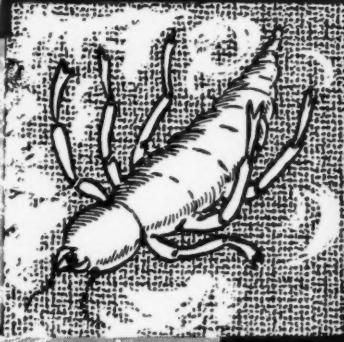
| Insecticide** | | | % Knockdown | | | OTI Difference | | |
|---------------|-----------------------------|----------------------------------|-------------------|--------|--------|----------------|-----------------|----------------------|
| Name | Concen- tration (mg.) | Piperonyl butoxide** (mg.) | % Kill 24 hrs. | 3 Min. | 5 Min. | 10 Min. | Kill 24 hrs. | Knockdown 10 Min. |
| Cyclethrin | 25 | 100 | 40 | 57 | 69 | 81 | -1 | -14 |
| | " | 200 | 53 | 64 | 75 | 87 | +12 | -8 |
| | " | 300 | 52 | 66 | 76 | 87 | +11 | -8 |
| | " | 400 | 57 | 64 | 76 | 86 | +16 | -9 |
| | 50 | 100 | 55 | 70 | 83 | 92 | +14 | -3 |
| | " | 200 | 65 | 74 | 84 | 92 | +24 | -3 |
| | " | 300 | 76 | 78 | 89 | 95 | +35 | 0 |
| | " | 400 | 84 | 75 | 88 | 96 | +43 | +1 |
| | 75 | 100 | 75 | 79 | 89 | 95 | +34 | 0 |
| | " | 200 | 80 | 82 | 90 | 95 | +39 | 0 |
| | " | 300 | 88 | 83 | 91 | 96 | +47 | +1 |
| | " | 400 | 93 | 84 | 93 | 98 | +52 | +3 |
| | OTI | | 41 | 89 | 93 | 95 | | |
| Pyrethrins | 25 | 100 | 46 | 73 | 82 | 89 | +5 | -6 |
| | " | 200 | 59 | 78 | 88 | 93 | +18 | -2 |
| | " | 300 | 66 | 81 | 91 | 95 | +25 | 0 |
| | " | 400 | 70 | 83 | 91 | 94 | +29 | -1 |
| | 50 | 100 | 66 | 96 | 92 | 96 | +25 | +1 |
| | " | 200 | 80 | 88 | 94 | 97 | +39 | +2 |
| | " | 300 | 82 | 90 | 95 | 98 | +41 | +3 |
| | " | 400 | 90 | 89 | 95 | 97 | +49 | +2 |
| | 75 | 100 | 81 | 90 | 94 | 97 | +40 | +2 |
| | " | 200 | 91 | 91 | 95 | 98 | +50 | +3 |
| | " | 300 | 94 | 93 | 96 | 98 | +53 | +3 |
| | " | 400 | 97 | 94 | 97 | 98 | +56 | +3 |

*Figures for synergist and toxicant are averages of 5 paired tests compared with 20 tests for the OTI.

**Mg. of chemical in 100 ml. of refined petroleum distillate.



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AMP

as an emulsifying agent in self-polishing waxes

By J. A. Frump*

Commercial Solvents Corp.

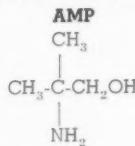
SINCE its commercial introduction AMP (2-amino-2-methyl-1-propanol) has shown steadily increasing application in floor polishes, as well as in other emulsified products. Some formulators have not been satisfied with certain characteristics of their test emulsions. However, this study of water-wax emulsions shows that these formulators had probably used more than optimum amounts of AMP. As will be shown in this presentation, AMP oleate is a very powerful emulsifying agent.

Physical properties of AMP are given in Table I.

Commercial AMP, with a melting point of around 25°C (77°F), may be somewhat difficult to handle in unjacketed storage during cold weather. For applications where water can be tolerated, a lower melting product containing 2.0 percent added water is available with

*Presented at 41st annual meeting C.S.M.A., New York, Dec. 7, 1954.

TABLE I. Physical Properties of pure



| | |
|------------------------------------|---------------------|
| Molecular weight | 89.14 |
| Melting point, °C | 30-31 |
| Boiling point, °C at 760 mm Hg. | 165 |
| Specific gravity at 20/20°C | 0.934 |
| Solubility in water | Completely miscible |

a maximum freezing point of 20°C (68°F).

The favorably low molecular weight of AMP makes it possible to form neutral soaps with an amine to oleic acid weight ratio of about 1:3. In the absence of borax, ammonia or other alkali, the most satisfactory amine to acid ratio for an alkaline soap is about 2:3.

After examination of wax-resin blends for water-wax emulsion floor polishes, the following was selected as a typical or representative formula and was used for comparing emulsifiers. All emulsions were prepared by the wax to water method and the same agitation was used in all preparations.

Numerous emulsions were prepared comparing the three most

popular water-wax emulsifiers: AMP, TEA (triethanolamine) and morpholine. The amine content was varied from the minimum necessary for a stable emulsion to greater than the optimum concentration, while at the same time the mol ratio of amine to oleic acid was varied. Optimum concentrations of amine and oleic acid are given in Table III.

Concentrations Important

FROM the viewpoint of the wax formulator, who must consider emulsifiers as a necessary evil, the concentrations of amine and oleic acid are very important. Retention of some emulsifier in the dried film aids in removability, but larger quantities, as needed with some amines, tend to soften the finished film mak-

TABLE II. Wax-Resin formula for evaluation of emulsifying agents

| | |
|--|--------------------|
| Carnauba #3 N.C. Refined | 30.0 g |
| Emulsifiable resin ¹ | 15.0 |
| Oxidized microcrystalline wax ² | 15.0 |
| Oleic acid | Varied |
| Amine | Varied |
| Water | q.s. to make 500 g |

¹ "Durez 219," Durez Plastics & Chemicals, Inc.

² "Crown 23," Petrolite Corp.

TABLE III. Optimum concentration of emulsifier in test formula

| | AMP | | TEA | | Morpholine | |
|------------|-------|--------|-------|--------|------------|--------|
| | Grams | Wt. %* | Grams | Wt. %* | Grams | Wt. %* |
| Amine | 4.54 | 7.56 | 8.24 | 13.72 | 7.10 | 11.82 |
| Oleic Acid | 7.20 | 12.00 | 7.80 | 13.00 | 9.00 | 15.00 |

*Based on wax-resin content (12% by weight)

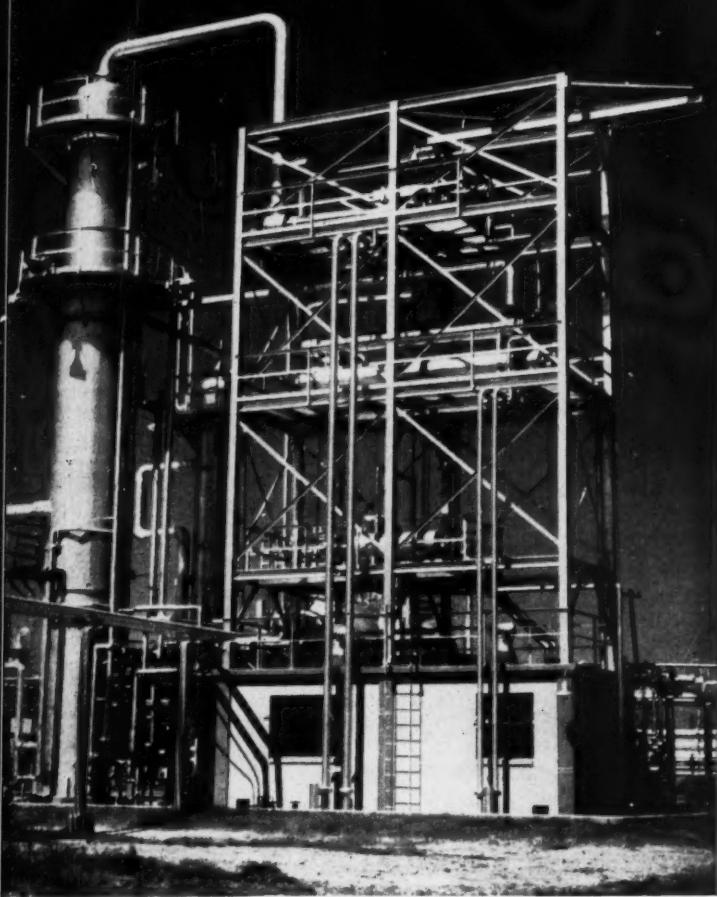
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DEVELOPMENT

R-50

A 50-50 wax-resin blend



NOTE THESE ADVANTAGEOUS SPECIFICATIONS

| ACID NO. | SAP. NO. | R & B S. P., °F | COLOR, NPA | PEN 100/5 |
|----------|----------|-----------------|------------|-----------|
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The many advantages of using microcrystalline waxes in emulsion polishes have resulted in the development of compatible synthetic resins for use as hardening agents. However, the blending of the wax with the resin results in additional problems of manufacturing, materials storage and specifications control.

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R-50 has excellent compatibility with the waxes generally used for emulsion polishes. It readily lends itself to many different types of no-rub polish formulations.

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ing it susceptible to scratching and scuffing.

In Table IV are listed some physical properties of the emulsions prepared using the optimum amine and acid concentrations given in Table III.

Because of the lack of standard test methods of evaluating emulsion waxes, the following tests were selected. It is believed that these tests and techniques are in accord with accepted practices of the industry and that the results are reliable. Throughout this work emphasis has been placed on relative rather than absolute performance.

Accelerated storage tests were run at 125°F. Samples showing absence of separation, gellation, creaming or change in viscosity for a period of 35 days were considered stable.

Freeze stability tests were run using 50 ml. samples. These were allowed to stand undisturbed at 10-15°F for 18 hours and then at room temperature for six hours. Satisfactory emulsions were required to pass three freeze-thaw cycles without change from their original properties.

Leveling of the films applied to TOTL panels with a two-inch pressed cotton pad was determined by visual examination of the panels, after the films had dried.

Turbidity tests were run on all emulsions, using one ml. of sample diluted to 100 ml. with distilled

| | AMP | TEA | Morpholine |
|-----------------------------|--------------|--------------|--------------|
| Stability at 125°F | Stable | Stable | Stable |
| Freeze-Thaw | Satisfactory | Satisfactory | Satisfactory |
| Leveling on TOTL | Excellent | Excellent | Excellent |
| Gloss | 15 | 14 | 15 |
| % Transmission | 68.8 | 49.7 | 61.5 |
| Water resistance at 24 hrs. | Good | Poor | Excellent |
| % Removability at 24 hrs. | 100 | 100 | 20 |
| Tack at 24 hrs. | Fair | Poor | Fair |
| Abrasion at 24 hrs. | Fair | Poor | Fair |

water. Percentage transmission was determined on the Lumetron Colorimeter Model 402-E using a red filter (660 mu).

Gloss was determined by the Gardner Portable 60° Glossmeter. TOTL panels were buffed with No. 00 steel wool to a gloss of eight prior to use. The emulsions were applied and allowed to dry thoroughly before checking for gloss.

Water resistance and abrasion were determined on TOTL panels dried for 24 hours using the Gardner Washability and Abrasion Machine (see Figure 1). After 25 oscillations of the water-soaked brush the panel was removed and dried. The wax film was then examined visually for whitening, spotting or abrasion.

Removability was determined in a manner similar to that described for water resistance and abrasion. In place of water, the brush was soaked in a standard soap solu-

tion and 75 oscillations were made. The panel was rinsed with water and allowed to dry. The panel was then examined visually to determine the percentage of wax removed from the exposed area.

AMP's Advantage

THE greatest advantage AMP holds over TEA and morpholine is its superior emulsifying power. This superiority illustrated above in Table III is again demonstrated in Table V, where minimum amounts of the three emulsifying agents are shown. While these emulsions are stable, they lack other necessary use qualifications, such as high gloss, leveling, etc.

The colors of the water-wax emulsions containing the minimum amounts of the three emulsifiers, as shown in Table V, were viewed by reflected light. As shown in Figure 2, all three emulsions have about

(Turn to Page 161)

Fig. 1. Gardner washability and abrasion machine. Note stripped area on center of TOTL panel.

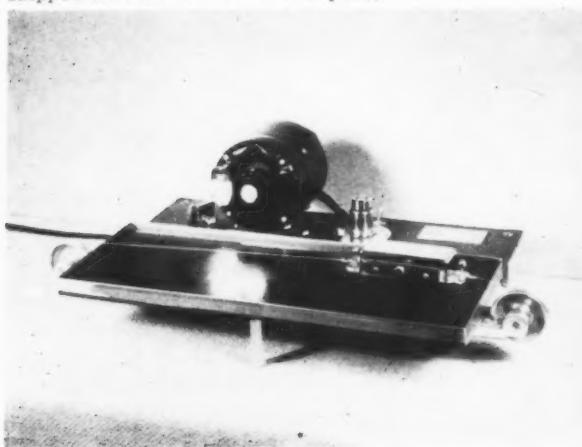


Fig. 2. The three emulsions are similar in color due to similar particle size.



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Fischer-Tropsch Waxes

(From Page 134)

ing points and great hardness of the FT waxes render them very suitable for use in the most varied industries and manufacturing processes, such as the manufacture of floor polish, shoe polish, carbon paper, coated and impregnated paper, electrical accessories, candles, cosmetics, packing wax and modelling wax.

Duroxon Wax C-60A: This wax comprises combinations of high molecular weight oxygenated products, principally carboxylic acids and esters. It differs from other oxidized waxes, such as the oxidized montan waxes, in composition and structure. Its properties are shown in Table VI.

C-60A wax is compatible with almost all other waxes. It also mixes well with resins and paraffins in almost any desired proportion. It is soluble when heated in the majority of common organic solvents.

The most important uses to which wax C-60A can be put result from its emulsifiability in aqueous solutions of inorganic or organic alkaline substances, such as potash or triethanolamine, to such an extent that, with or without the addition of waxes or paraffins, suspensions result which vary in consistency from liquids to unctuous or almost solid form. Industrially, fluid suspensions of this nature, for example, may be used for the impregnation of paper or textile products. The addition of C-wax is also very useful during the manufacture of lubricant greases; as a saponifiable ingredient it raises drop-points and improves consistencies.

Duroxon Wax J-324: This wax, the properties of which are listed in Table VII, is a light-colored wax. One of its most favorable characteristics is high solvent retention for naphtha or turpentine. Also, it forms pastes having a high resistance to temperature changes.

SOLIDIFICATION POINT OF MIXTURES OF FT-200 AND FT-300 WITH PARAFFIN WAX

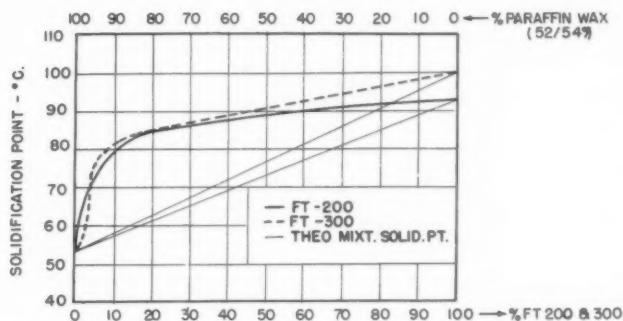


Figure 2.

The optimum temperature for pouring the pastes is about 55°C or above. As the paste begins to solidify again at temperatures of about 50°C, decanting is possible at high summer temperatures, without refrigeration. If poured at a lower temperature the heat resistance of the paste may be impaired, (if the hard wax ingredient

is almost exclusively J-324). In solvent wax-polishes it supplements the solvent and prevents the precipitation of solids.

Duroxon wax J-324 also imparts polish and impermeability to newly manufactured linoleum, when mixed with other waxes.

Duroxon Wax H-110: H-110 is a special wax for the manu-

TABLE V. Electrical Properties of Duroxon FT-200 and FT-300

| Property | FT-200 | FT-300 |
|------------------------------------|---------------------|---------------------|
| Dielectric constant | about 3 | about 3 |
| Electric resistance | 10^{15} ohms • cm | 10^{15} ohms • cm |
| Electric breakdown strength, kV/mm | about 14 | about 14 |

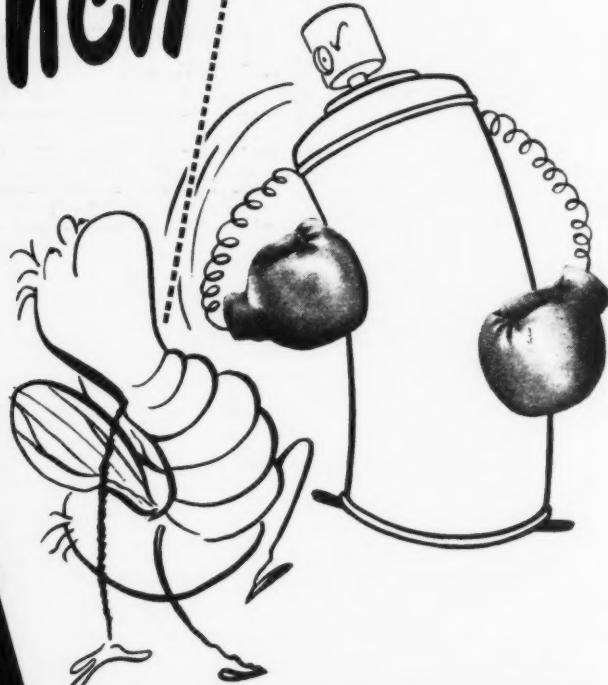
TABLE VI. Properties of Duroxon Wax C-60A

| Property | C-60A |
|-----------------------------------|--------|
| Solidification point °C | 90/92 |
| Penetration, (100 g, 5 sec, 77°F) | 2.9 |
| Acid number | 26 |
| Saponification number | 49 |
| Iodine number | 4 to 6 |
| Density at 20° about | 0.97 |

TABLE VII. Properties of Duroxon Wax J-324

| | |
|---|-----------------|
| Melting point (capillary tube) | 212-218°F |
| Solidification point (rotating thermometer) | 183-190°F |
| Acid Value | 5-15 |
| Saponification Value | 30-40 |
| Penetration (100 g 5 sec. 77°F) | 2-4 |
| Color | Greenish-yellow |

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facture of aqueous, light-color self-polishing emulsions. During its manufacture care is taken to insure that it spreads well and dries evenly on the floor. The wax is of great hardness; it is of brownish color and breaks smoothly. Suspensions can be produced by the use of either ionic or non-ionic emulsifying agents. The latter may be mixed with dispersions of carnauba wax, shellac and plastics.

In making emulsions with this wax using triethanolamine or morpholine, the quantity of fatty acid required is lower than with carnauba wax. Duroxon H-110 is also suitable for the manufacture of wax stains and partially saponified polishes. Its properties are as follows:

| | |
|-------------------------------------|-------------|
| Melting point (Ubbelohde) | 92-95°C |
| Acid value | 15-30 |
| Saponification Values | 60-75 |
| Penetration (100 g, 5 sec, 77°F) | 2-4 |
| Color | Light-brown |

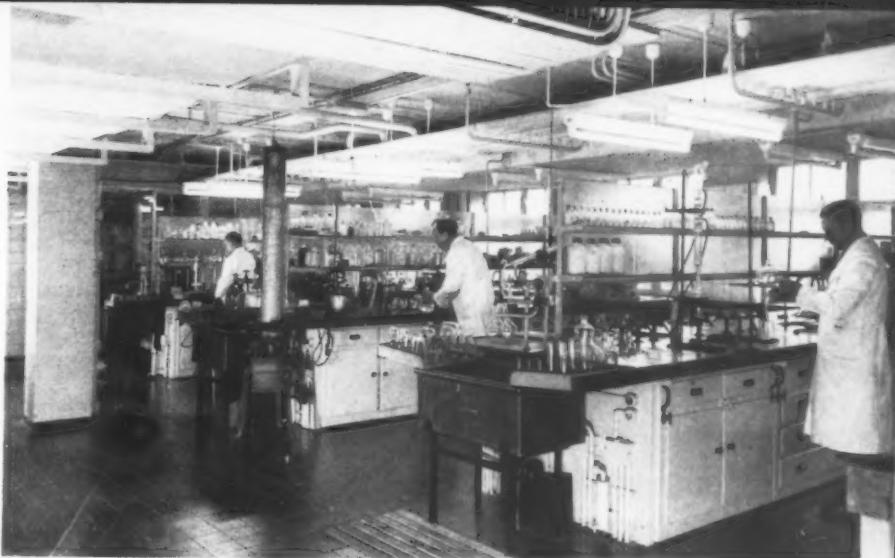
Duroxon Waxes D-150, and D-250: D-150 and D-250 are soft waxes, containing large amounts of free carboxylic acids, and other oxygenated products, which impart very useful dispersing properties. Therefore, they are mainly used where gels and aqueous emulsions are made by saponification. For example, they permit the formulation of stable dispersions from mineral oil, so that a series of greases can be made having a high or low drop-point. Properties of these waxes are shown in Table VIII.

Duroxon Waxes R-11 and R-21: The physical and chemical data of the above mentioned waxes are as follows:

R-11 R-21

| | | |
|------------------------------|---------|---------|
| Solidification | | |
| point (rotating thermometer) | 87-92°C | 90-95°C |
| Acid number | 20-30 | 5-15 |
| Saponification number | 20-30 | 5-15 |
| Penetration (100 g/5"/25°C) | 1-2 | 2-4 |

Duroxon R-11: R-11 is a



Technical service laboratory

hard wax, light in color and, like J-324, suitable for manufacturing shoe-polish and wax floor-polishes. The resulting pastes are characterized by their high resistance to changes in temperature, their retention power and their high gloss. They can be poured at low temperatures (between 40° and 50°C).

Duroxon R-21: The synthetic hard paraffin wax R-21 is cream-colored and hard; it was developed especially for the manufacture of liquid floor-polish. It overcomes two of the main difficulties which face the manufacturer of liquid solvent polishes: first—solidification of the gel on standing and second—excessive penetration of polish into the surface to be polished. With Duroxon R-21, however, liquid wax polishes can be made with a wax content of up to 20 percent, which stay liquid even at temperatures of about 0°C, while still retaining their spreading qualities.

Formulations and complete directions involving the above uses

may be obtained from the manufacturer.

Conclusions

IT has been shown that the Fischer-Tropsch process can produce a number of grades of paraffinic type hydrocarbon waxes, and these in turn may be further processed to give a wide variety of useful oxygenated waxes. These products, being somewhat new on the U. S. market, must be test-evaluated by users to ascertain their proper functions. There seems little doubt however that these waxes are destined to play an increasingly important part in the overall wax market.

Acknowledgement

SPECIAL credit is given to the book "The Fischer-Tropsch and Related Syntheses" by H. H. Storch, N. Golicic and R. B. Anderson, for much of the information contained herein on the technical details of the Fischer-Tropsch process.

TABLE VIII.

| Property | D-150 | D-250 |
|---|---------|---------|
| Solidification point (rotating thermometer) | 47-52°C | 45-50°C |
| Acid number | 75-90 | 110-130 |
| Saponification number | 140-170 | 225-260 |
| Iodine number | 4-6 | 10-20 |
| Unsaponifiable per cent | 30-35 | 25-30 |

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Cyclethrin

(From Page 151)

mobilization or paralysis of down flies is obtained with cyclethrin than with allethrin. Quicker immobilization is more apparent and significant when these materials are evaluated at economical use levels with synergists.

Of greater practical significance is the performance of cyclethrin when compared with pyrethrins or allethrin tested at use levels with synergists. It was determined early in space-spray tests that cyclethrin was synergized for kill in a much greater degree than allethrin. Typical data for mixtures containing synergists, sulfoxide, which is 1,2-methylenedioxy-4-[2-(octylsulfinyl)-propyl]benzene, piperonyl butoxide, which is *a*-[2-(2-n-butoxyethoxy)-4,5-methylenedioxy-2-propyltoluene, *n*-propyl isome, which is di-*n*-propyl-6,7-methylenedioxy-3-methyl-1,2,3,4-tetrahydro-naphthalene-1,2-dicarboxylate, and Synergist 6266 (an experimental synergist of Carbide and Carbon Chemicals Co.), each with cyclethrin and allethrin are shown in Table II. The tests were not designed to compare the relative efficiencies of the synergists with allethrin or cyclethrin, but to show primarily the comparative effectiveness of cyclethrin and allethrin when each was combined with a synergist at a single ratio. The four groups of tests were not paired directly in the same test series. The greater degree to which cyclethrin is synergized by all four synergists for kill of house flies is obvious. Greater knockdown, also, is noted for cyclethrin with the four synergists.

A more detailed comparison was made with synergists sulfoxide and piperonyl butoxide each with cyclethrin and pyrethrins. Four ratios of synergist to toxicant at three different dosage levels of cyclethrin or pyrethrins were tested. Results for sulfoxide and piperonyl butoxide are shown in Tables III and IV respectively. Data for 10-

minute knockdown and 24-hour mortality at the 200-mg. dosage of synergist were transposed to a logarithmic probability scale. Then the following amounts of pyrethrins or cyclethrin each with 200 mg. of synergist, to produce a spray which equaled the Official Test Insecticide for 10-minute knockdown and which exceeded it by 20 percentage points for 24-hour mortality, were determined:

| | Synergist | Piperonyl | Sul- | butoxide | foxide |
|-------------------------|-----------|-----------|------|----------|--------|
| Pyrethrins, mg./100 ml. | 25 | 27 | | | |
| petroleum distillate | | | | | |
| Cyclethrin, mg./100 ml. | 40 | 46 | | | |
| petroleum distillate | | | | | |

These figures show that 1.6 and 1.7 times as much cyclethrin as pyrethrins are needed for comparable performance. At lower concentrations of the synergists these amounts of cyclethrin are slightly less and at high concentrations they are somewhat higher. The relative efficiencies of sulfoxide and piperonyl butoxide with cyclethrin and pyrethrins will be discussed in a forthcoming publication.

(To be concluded)

Perfo Mat Salesman's Kit

Perfo Mat & Rubber Co., New York, recently introduced a new salesman's kit which includes

TABLE V. Minimum concentration of emulsifier for stable emulsions

| | AMP | | TEA | | Morpholine | |
|------------|-------|--------|-------|--------|------------|--------|
| | Grams | Wt. %* | Grams | Wt. %* | Grams | Wt. %* |
| Amine | 3.40 | 5.67 | 6.34 | 10.55 | 5.54 | 9.23 |
| Oleic Acid | 5.40 | 9.00 | 9.60 | 16.00 | 7.80 | 13.00 |

*Based on wax-resin content.

22 different types of floor mats and matting in an easily portable case. Intended for use by dealer's representatives, the kit also features four color brochures and complete sales information. Additional information is available from Perfo.

— ★ —

Geigy Branch Moves

Geigy Agricultural Chemical Corp., New York, recently announced the removal of its midwest branch office from Burlington to Des Moines, Ia. The new address is: Geigy Agricultural Chemicals, 3525 Vandalia Road, P. O. Box 903, Des Moines, Ia. Midwest branch manager is Emil C. Gerdes.

AMP-Wax Emulsifier

(From Page 155)

the same gray color. This indicates similar particle size and, therefore, equivalent emulsification.

Turbidity determinations

have been accepted as a measure of relative particle size in emulsions. From a series of emulsions for each amine, relative turbidity curves were obtained by plotting percent light transmission against percent amine, as shown in Figure 3. The optimum concentration of oleic acid was used for each amine, as shown in Table III. The greater effectiveness of AMP in reducing particle size is clearly illustrated. It is, therefore, evident that if one uses the same weight of the three amines probably too much AMP is employed.

When equal weight concentrations of the three emulsifiers are used, the emulsion from AMP appears to be considerably darker, as shown in Figure 4. Because of the greater emulsifying power of the AMP, smaller particles are formed which allow a greater percentage of the light to be transmitted, causing the emulsion to appear darker to the eye. The wax film produced from the AMP emulsion is no darker than the films from the other two emulsions. The AMP emulsion has merely shown up the true color of the other raw materials. This is illustrated in Figure 5 by comparing the color of transparent water-wax emulsions prepared from darker carnauba #3 N. C. refined and lighter carnauba #1 yellow waxes.

Effects of Emulsions

PROPERTIES of the finished wax which are directly affected by the emulsifier are water resistance, removability, leveling and gloss. The emulsifier also controls particle size which is an essential factor in emulsion stability.

Water resistance and removability are properties that are so

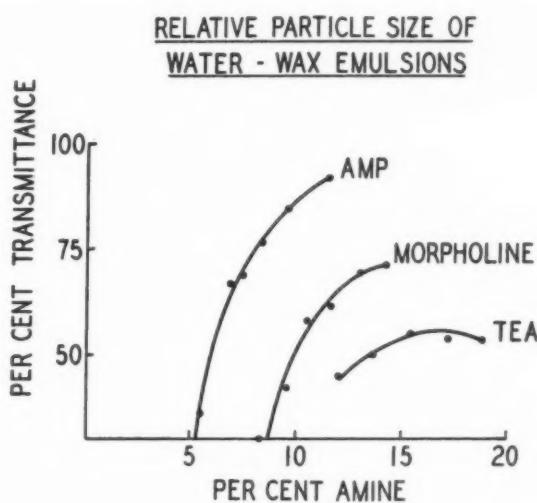


FIG. 3

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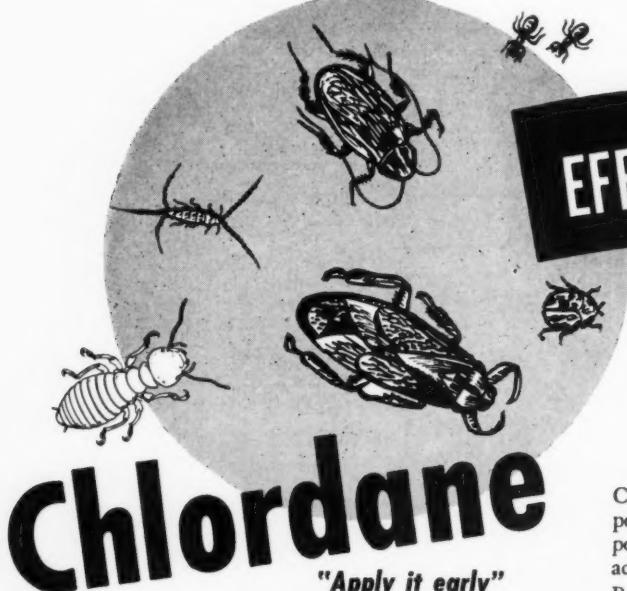
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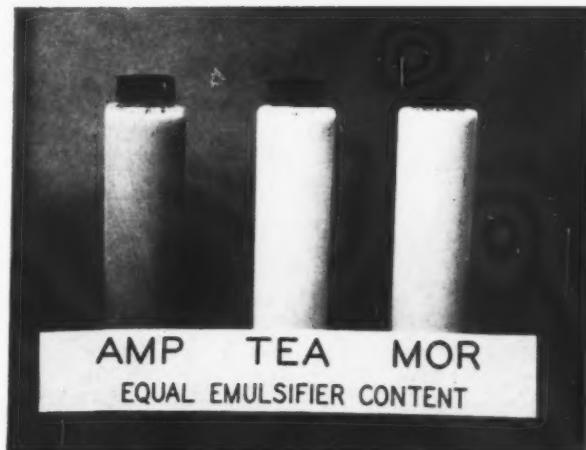


Fig. 4. The emulsion prepared with AMP is darker due to a smaller particle size which allows more light to be transmitted.

closely related it is difficult in formulas of this type to achieve perfection in one without sacrificing quality in the other. Emphasis is placed on water resistance because a good floor polish must be resistant to the liquids which are accidentally spilled on floors. For economy and convenience it is highly desirable to have a wax that can be damp mopped without damage. It is just as important, however, to have a wax film that can be removed with detergents after it becomes marred from traffic. As shown in Table IV, morpholine and TEA apparently represent two extremes. Morpholine gives a film with excellent water resistance and poor removability. TEA films, however, have poor water resistance and excellent removability. AMP represents the mean in water resistance—removability character-

istics, giving films of good water resistance and excellent removability.

Leveling is a very important property of self-polishing floor waxes. In a formula such as that used for the evaluation of emulsifiers, it is extremely important that the correct concentration of emulsifier be determined. Significant variations in the concentration of the emulsifier greatly affect the leveling of the applied film (see Figure 6). The critical range for AMP is rather narrow and poor leveling can result from the use of improper amounts of emulsifier. However, when shellac or other leveling agents are incorporated in the formula, the critical range for AMP is broadened considerably.

Tack and abrasion are related properties that usually im-



Fig. 5. These transparent carnauba wax emulsions prepared with AMP show the true color of the other raw material.

prove with film age. Twenty-four hours after application, the films from the formulas under discussion are not yet satisfactory with respect to tack and abrasion. The AMP and morpholine films soon lose their undesirable characteristics; whereas the TEA film remains tacky and easily scratched for several days. Incorporation of either shellac or shellac substitutes in these emulsions greatly lessens the tack and increases the abrasion resistance of the films.

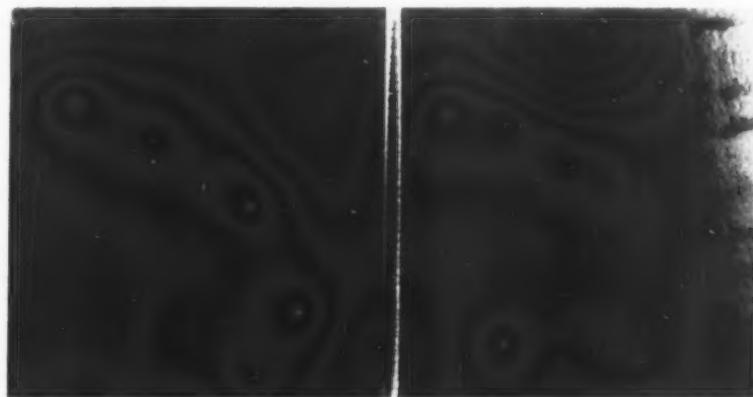
In summary, lower concentrations of AMP can be used to prepare better floor wax emulsions than is possible with other widely-used amines. Also, less oleic acid is required.

The floor wax emulsions prepared from AMP are stable to freeze—thaw cycles and accelerated storage tests. Further, the wax films obtained show good water resistance, good removability, excellent leveling and high gloss. Thus, AMP oleate is an economical and desirable emulsifying agent for water-wax emulsions. ★★

Cosmetic Aerosols (From Page 137)

maintained at 70°F. Since the materials involved in these titrations possess reasonably high vapor pressures, care was taken to keep the vapor space in the titrating tube at

Fig. 6. Leveling on TOTL panels. The panel on left shows excellent leveling. Panel on right shows poor leveling.



a minimum when the cloud point was reached. This eliminated the necessity of applying a correction to the final composition to account for the material in the vapor space. In general, the titrating tube was filled with liquid to within 75 percent or more of its capacity. A total weight of 50 to 70 g. of material was generally present in the tube when the cloud point was reached.

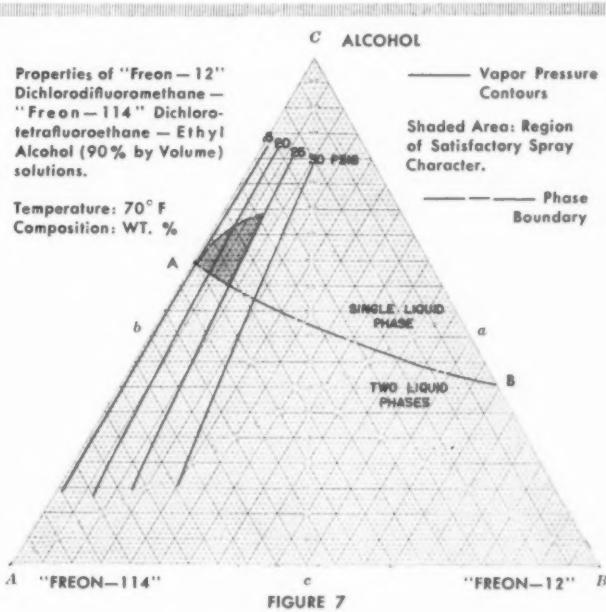
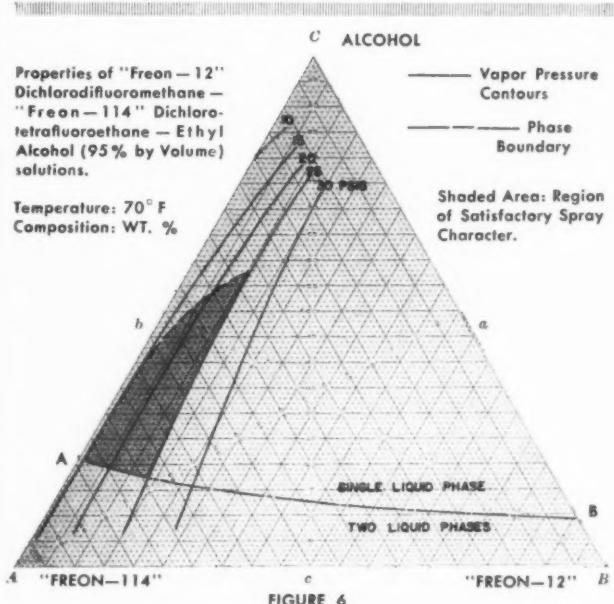
In determining solubilities by titration, it is desirable to start with compositions of two components which, when titrated with the third, will give a sharp endpoint. To accomplish this, the following procedure was used. A composition of two components was selected which, on addition of the third, would give composition changes which followed a straight line on the triangular coordinate and intersect the solubility curve at as nearly a right angle as possible. This necessitated, first, estimating the approximate position of the phase boundary. For example, in Figure 3, if one starts with a solution of 80 percent "Freon-12" dichlorodifluoromethane and 20 percent "Freon-11" trichloromonofluoromethane and adds alcohol, the composition of the solutions obtained will follow a straight line

from the alcohol base line (i. e., 0 percent alcohol) to the opposite apex (i. e., 100 percent alcohol) and intersect the phase boundary approximately perpendicularly at a composition of 58 percent "Freon-12", 15 percent "Freon-11" and 27 percent alcohol. This procedure is preferable to one starting with 82 percent "Freon-11" and 18 percent alcohol, for example, and titrating with "Freon-12". The latter path would give composition changes along a straight line intersecting the phase boundary at a very small angle. When this occurs, the endpoint is poorly defined and difficult to locate accurately.

Flammability

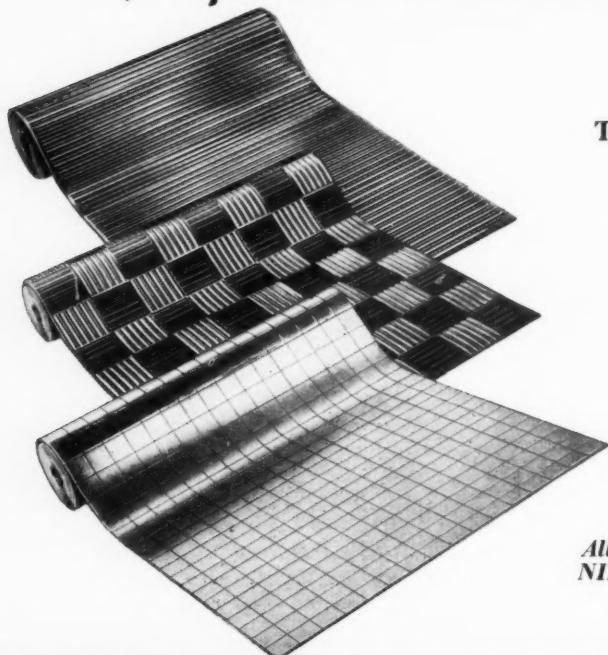
TO define further the characteristics of these solvent-propellant systems, a limited number of flammability tests were conducted. The recommended ICC (7) and C.S.M.A. (8) flame extension and closed drum tests were used and the results are shown in Table I. It would appear from these tests that the borderline of flammability lies in the region of 30 to 40 percent alcohol concentration. This is by no means a firm generalization and considerably more testing would be required to define accurately the limit of flammability.

To verify the overall consistency of these charts a series of samples were prepared which would cover a range of pressures and spraying characteristics for each of the seven propellant-solvent systems. Each sample was judged for its spray pattern and a pressure determination made by the procedures described. These observations are recorded in Table I. In general, the agreement with the charts was considered quite satisfactory. In checking the properties of the compositions listed in Table I it will be noted that in some instances where the charts indicate a borderline spray pattern, the observation recorded in Table I was unsatisfactory. In view of the personal factor involved such minor disagreements would be expected. There is also a consistently small difference in the pressures obtained for the test compositions as compared with the pressures indicated in the chart. This is the result of an intentional change in the loading technique. The test cans were cold loaded by the usual laboratory technique while the formulations from which the original pressure data were obtained were carefully loaded to minimize trapping of air in the container. As expected, higher pressures were obtained by using



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Top: Cross-Rib Runner

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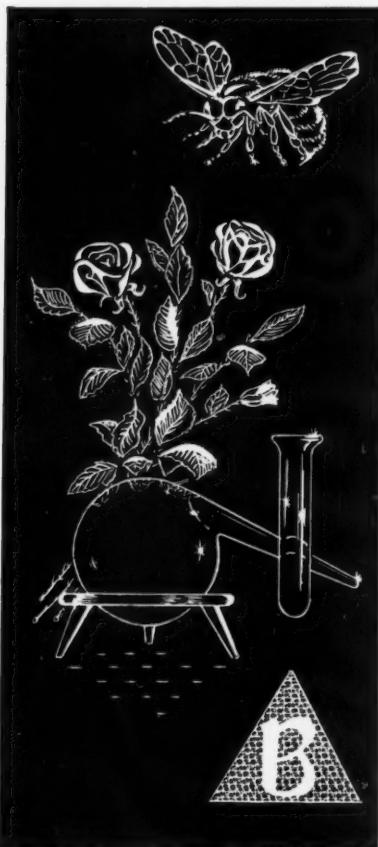
Bottom: Tile Runner

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TABLE I. Test Series of Low Pressure Propellant-Solvent Systems
Test Temperature: 70°F.

| No. | Weight Ratio "Freon-12" to "Freon-11" to Alcohol | Alcohol- Water Solvent Vol. % Alcohol | Vapor Pressure psig. | Spray Character | Flammability* | Closed Drum |
|---|---|---|----------------------------|--------------------|---------------|----------------|
| 1 | 15/35/50 | 100 | 25 | Satisfactory | F | F |
| 2 | 15/70/15 | 100 | 25 | Satisfactory | NF | NF |
| 3 | 5/60/35 | 100 | 18 | Satisfactory | C | NF |
| 4 | 10/45/45 | 95 | 24 | Satisfactory | C | NF |
| 5 | 10/65/25 | 95 | 25 | Satisfactory | NF | NF |
| 6 | 3/57/40 | 95 | 19 | Satisfactory | C | NF |
| 7 | 6/28/66 | 90 | 26 | Satisfactory | F | F |
| 8 | 7/35/58 | 90 | 26 | Satisfactory | F | F |
| 9 | 2/37/61 | 90 | 21 | Borderline | F | F |
| "Freon-12" to "Freon-11" to Alcohol | | | | | | |
| 10 | 15/45/40 | 100 | 18 | Borderline | C | F |
| 11 | 20/50/30 | 100 | 21 | Satisfactory | C | NF |
| 12 | 25/60/15 | 100 | 23 | Satisfactory | NF | NF |
| 13 | 20/45/35 | 95 | 24 | Satisfactory | F | NF |
| 14 | 15/60/25 | 95 | 17 | Borderline | C | NF |
| 15 | 25/65/10 | 95 | 23 | Satisfactory | NF | NF |
| 16 | 15/35/50 | 90 | 23 | Borderline | C | NF |
| 17 | 10/50/40 | 90 | 15 | Satisfactory | NF | NF |
| 18 | 20/60/20 | 90 | 21 | Unsatisfactory | NF | NF |
| 19 | 10/30/60 | 85 | 22 | Borderline | F | NF |
| 20 | 5/45/50 | 85 | 12 | Borderline | C | NF |
| 21 | 10/50/40 | 85 | 15 | Borderline | C | NF |

* F—Flammable

NF—Nonflammable

C—Combustible (C.S.M.A. rating only)

the ordinary laboratory loading method.

Summary

DATA have been reported on low pressure solvent-propellant systems suitable for basic formulations of aerosol colognes to be packaged in glass containers. These data include pressure, spray characteristics, solubility and, to a limited extent, flammability. The solvent-propellant systems studied include varying alcohol-water mixtures with the two propellant solutions, "Freon-12" dichlorodifluoromethane - "Freon-11" trichloromonofluoromethane and "Freon-12" - "Freon-11" dichlorotetrafluoroethane.

For systems containing "Freon-12" - "Freon-11" propellents, a formulation which will give a typical cologne type of spray should contain approximately 10 to 20 percent "Freon-12", 10 to 50

percent alcohol and "Freon-11" by difference. Such compositions give pressures ranging from 10 to 30 psig. at 70°F. depending upon the alcohol-water solvent used and the total composition of the system. As the alcohol component is diluted with water, more of the aqueous alcohol solvent is required in the total system to maintain complete solubility.

Similar generalizations may be applied to formulations containing "Freon-12" and "Freon-11". To obtain a cologne type of spray, "Freon-12" concentrations ranging from two to 15 percent in the total composition are required. The upper limit of alcohol concentration is approximately 55 to 65 percent while the lower limit is defined by the miscibility of the propellant in the alcohol-water solvent. With 90 percent alcohol, this lower limit is 55 to 60 percent alcohol.

The borderline of flammability of these various systems appears to be in the range of 30 to 40 percent alcohol concentration. Formulations near or above this level of alcohol content should be thoroughly tested for flammability.

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7. Tariff No. 9 Interstate Commerce Commission Regulations, Subpart F, Section 73.300.
8. Chemical Specialties Manufacturers Association, Inc. Aerosol Scientific Committee, Report of Subcommittee II on Flammability Tests of Self-Pressurized Containers.

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New Griffin President

Robert L. Aste, formerly executive vice-president of the firm, was elected president of Griffin Manufacturing Co., Brooklyn, N.Y., it was announced late last month. Mr. Aste succeeds his father, Anthony L. Aste, founder of the business, who died in December.

Heads Selig Co.

Simon S. Selig, Jr., was elected president of Selig Co. of Atlanta to succeed his uncle, the late Albert S. Selig, who died Jan. 1. Mr. Selig's election took place during a meeting of the board of directors of the Selig company on Jan. 5. The former executive vice-president, and veteran of nearly 20 years with the company he now heads, is the son of the late Simon S. Selig, Sr., founder and first president of Selig Co. A native of Atlanta, where he was born Aug. 1, 1913, Simon S. Selig, Jr., was graduated from the University of Georgia in 1935. He was a lieutenant-colonel in the infantry in World

War II. He is a member of the Temple, the Yaarab Shrine, American Legion and B'nai B'rith. He



Simon S. Selig, Jr.

is also vice-president and a member of the board of Standard Town and Country Club of Atlanta.

At the same time, these officers were elected by the Selig Co. of Texas, Dallas: Simon S. Selig, Jr., president; Lyons B. Joel, II, executive vice-president; Jules Hoffman, vice-president; Henry B. Sie-

gel, secretary-treasurer; E. Clifford Lowry, assistant secretary and comptroller.

O-Cedar Names Rebernak

Adolph Rebernak has been named technical director by O-Cedar Corp., Chicago, it was announced recently. Mr. Rebernak joined the firm 12 years ago as chief chemist. In his new capacity he is in charge of research and development of all O-Cedar products and responsible for establishing standards and specifications for raw materials.

Acquired by Veneer-O-Wax

Veneer-O-Wax Corp., Philadelphia, announced recently that R. & R. Chemicals Co. has become part of its organization and that its plant, office and laboratory have been removed to 2010-12 East Fletcher Street, Philadelphia 25, telephone NEbraska 4-0505. Veneer-O-Wax will now handle pine jelly soap, disinfectants, insecticides, liquid hand soap and automotive chemical specialties in addition to the regular line of floor wax, wax emulsion, and liquid floor cleaners.

Heads Judson Dunaway

Sam Knox, formerly executive vice-president of the Judson Dunaway Corp. of Dover, New Hampshire, chemical specialties manufacturer, has recently been elected president. He succeeds S.

Sam Knox



Judson Dunaway, who has become chairman of the board. Mr. Knox, who has been with the corporation eighteen years, will continue as sales manager.

Nelson C. Latremore, advertising manager, was elected vice

S. Judson Dunaway



president in charge of advertising, while J. Eugene Jalbert, treasurer, was elected a vice president. George L. Jaques was elected vice president in charge of production and purchasing, and Donald T. McDaniel, secretary.

Nelson Latremore



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Specialized WINDSOR WAXES

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We shall be happy to analyze any of
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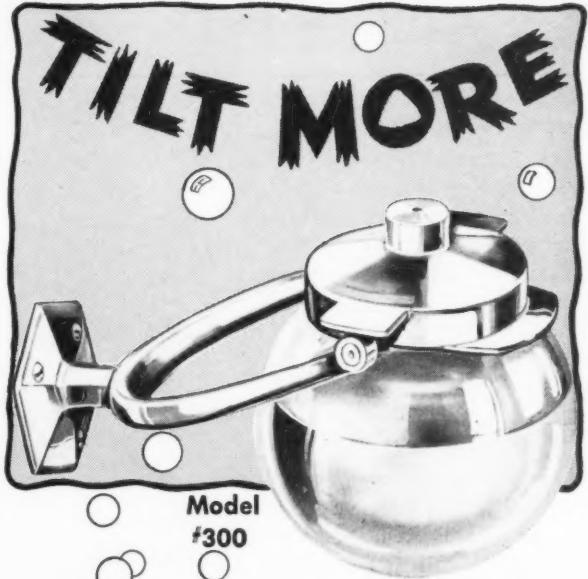
- NO RUBBING WAXES
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Hooker, Durez May Merge

Hooker Electrochemical Co., Niagara Falls, N. Y., and Durez Plastics & Chemicals, Inc., North Tonawanda, N. Y., are negotiating for a merger of Durez with Hooker by the issuance of one share of Hooker for each share of Durez, it was announced last month. In anticipation of this transaction, the board of directors of Durez declared a 10 percent stock dividend at its meeting Jan. 13.

— ★ —

Merck Advances Treacy

Thomas J. Treacy has been appointed to the newly created position of director of sales and marketing of the chemical division of Merck & Co., Rahway, N.J., it was announced recently. Mr. Treacy has been with Merck since 1936, became manager of the special sales department in 1950 and director of sales service in January, 1954. He is a graduate of the University of Notre Dame.

— ★ —

Vaccaro Witco V. P.

The election of Michael D. Vaccaro as vice president in charge of eastern sales was announced recently by Witco Chemical Co., New York. With Witco since 1937, Mr. Vaccaro has been active for 16 years in the firm's eastern sales organization covering Pennsylvania, New Jersey, and Metropolitan New York. He became eastern sales manager in 1953.

— ★ —

New Moore Dispenser

A new powdered hand soap dispenser was introduced recently by Moore Brothers Co., New York. Designated "Powderflo No. 700" the new model is made of polished heavy gauge non-corrosive metal. A full hinge lock-cap with a four by three inch opening makes for ease of filling. The shuttle type dispensing mechanism releases a measured amount of soap. The mechanism is recessed in the base of the unit where it cannot be clogged by contact with wet hands. The unit is attached to a wall by three screws which are hidden from view after

mounting. The new dispenser holds up to three pounds of powdered hand soap. Dimensions of the new



New Moore Powdered Soap Dispenser

dispenser are seven and three quarters by four by three inches.

— ★ —

New Michigan Chem. V.P.

The election of Fred A. DeMaestri as new vice-president in charge of operations was announced recently by Michigan Chemical Corp., St. Louis, Mich. He was formerly technical supervisor of Ehret Magnesia Manufacturing Corp., Valley Forge, Pa. Mr. DeMaestri received a B.S. degree in chemistry in 1937 from the University of Santa Clara. He was associated with Westvaco Chlorine Products Corp., New York, from 1937 to 1941 at Newark, Calif., where he advanced through research, engineering, and operations in the production of brine chemicals.

— ★ —

Guardian Booklet

Guardian Chemical Corp., Long Island City, N.Y., is offering complimentary copies of "Hypochlorous Acid: Its Preparation, Derivatives, and Properties" by Alfred R. Globus. Copies are available to companies addressing their requests on their letterheads to Guardian Chemical Corp., 10-15, 43rd Avenue, Long Island City 1, New York.

Simoniz in Bulk Waxes

Simoniz Co., Chicago wax firm, announced late last month that it is entering the commercial bulk products field. Heretofore the company has only sold consumer products. Its new line of industrial bulk products, which features the slogan, "Long Wear with Less Care", will include: heavy duty (self-polishing) floor wax, non-scuff (self-polishing) floor wax, paste floor wax, liquid concentrate floor cleaner and "Hilite" furniture polish. The latter is a non-buffing liquid. All these products will be available through selected distributors throughout the U. S. to institutional, commercial and industrial users, according to Hugh Rains, who heads the new Simoniz Commercial Products Division.

A heavy advertising schedule in principal commercial trade and consumer publications is planned to promote the Simoniz bulk products line in 1955. Descriptive sales brochures and individual product descriptive sheets are a part of present sales promotion helps. Simoniz is also planning to exhibit its industrial bulk line in a number of commercial trade shows during the year. Additional products and expanded field sales operations are part of the company's broad program.

Simoniz Co. makes its general offices at 2100 Indiana Ave., Chicago 16. Divisional sales offices and warehouse operations are located in 25 principal cities.

— ★ —

Hollingshead Borrows

Arrangements have been completed to cover loans of \$3,200,000 it was announced recently by Wilbur H. Norton, president of R. M. Hollingshead Corp., Camden, N. J.

The new financing program involved the sale by R. M. Hollingshead Corp. of \$1,500,000 principal amount of 4½% first mortgage bonds dated Dec. 1, 1954 maturing Dec. 1, 1969, principally to the Northwestern Mutual Life Insurance Co., Milwaukee.

At the same time, the corporation sold \$700,000 principal amount of unsecured 4½% 5-year notes to

Built- to Endure

There are many reasons why the Atlantic Vanco line is the preferred equipment for maintenance work. It's designed right for easy, efficient use and is ruggedly built to withstand the gruelling punishment to which such equipment is subjected day after day. A contributing factor to its greater durability and longer life is Atlantic's process of "HOT DIP" GALVANIZING BY HAND. Here, the extra heavy coating of zinc builds up *extra* protection against wear and corrosion . . . reduces replacement costs to a minimum!

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J. P. Morgan & Co., to the Pennsylvania Company for Banking and Trusts, Philadelphia and to First Camden National Bank and Trust Co.

Mr. Norton also announced that the corporation as part of the new financing program has established a \$1,000,000 revolving credit to be provided by J. P. Morgan & Co., and the Pennsylvania Company for Banking and Trusts. Interest rate on the new line of credit is 3½%.

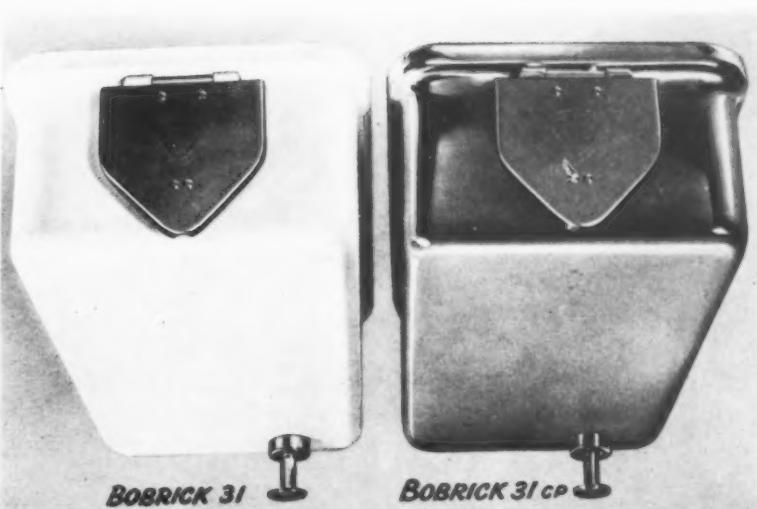
This financing program will enable the R. M. Hollingshead Corp. to repay existing short term bank loans incurred principally to finance construction of a new manufacturing plant at Sunnyvale, Calif., to be in production March 1, 1955 and provide additional working capital for the corporation.

Reichhold Makes Penta

Reichhold Chemicals Inc., White Plains, N. Y., is producing pentachlorophenol in pilot plant quantities by a new process at a new plant in Seattle, Wash., it was announced recently by Henry H. Reichhold, chairman of the board. The unit is currently making 30,000 pounds of penta a month, and will shortly be supplemented by a plant which will have an initial annual capacity of two million pounds to be raised to about six million pounds in the future. A technical grade of penta as well as sodium pentachlorophenolate will be available from the Seattle installation.

New Dispenser Lock

A new lock for the hinged cover of "No. 31 CP" soap dispenser was announced recently by Bobrick Dispenser Co., Los Angeles. The improved lock can be opened only with a new specially shaped key. While the straight key used previously with this model will not open the new lock, the new key will open the old lock. Installations of Bobrick powdered soap dispensers can be added to with new units that are identical in appearance and the new key can be used for all the



New lock for hinged covers of No. 31 CP soap dispensers was announced recently by Bobrick Dispenser Co., Los Angeles. New key opens old and new locking devices.

dispensers. Designed for use with any free flowing powdered soap formulation, the dispenser is avail-

able in baked white enamel finish as well as in chrome. The cover is made of stainless steel.

Geigy Names Jones

Appointment of Don M. Jones as plant engineer at Cranston, R. I., was announced by Geigy Co., New York. With Geigy since 1952, he was formerly plant engineer at McIntosh, Ala., and now replaces S. Marsh, who resigned recently.

A multi-million dollar program is under way at the Cranston plant which Geigy acquired from Alrose Chemical Co. in 1949. "Tinopal" optical bleaches and "Sequestrene" chelating compounds are among the products manufactured in Cranston.

C. W. Mason Retires

C. W. Mason, chairman of the board of George T. Johnson Co., Medford, Mass., and former president and general manager, retired recently after being with the company for 25 years. Mr. Mason was given a surprise dinner on Dec. 15th at the Red Coach Grille in Wayland, Mass. The entire Johnson sales staff and office force were present. In addition representatives from all major manufacturers serving the Johnson company were present.

In a novel presentation, made by William Donahue, senior John-

son salesman, Mr. Mason was given a model of his new home on Cape Cod with a miniature replica of the shrubs that his fellow employees are giving him as a retirement present.

James Reider, president of Johnson, presented Mr. Mason with a model of a split rail fence that the company is giving him.

Central Can Names Mueller

Central Can Co., Chicago, announced recently the appointment of A. C. Mueller Co., Cleveland, as sales representatives in the Cleveland and northern Ohio areas. Mueller Co. is a manufacturers' representative for a line of chemical specialties. Central Can makes steel shipping containers and pails.

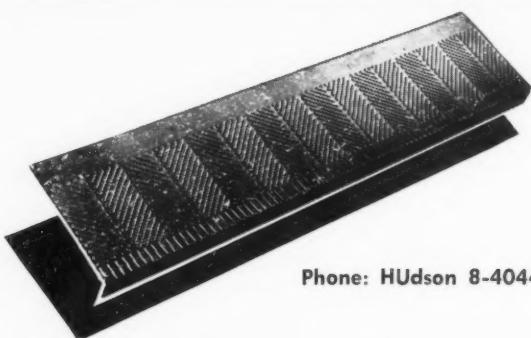
Silicone Catalog

New uses for silicones and new special purpose silicone products are included in the 1955 reference guide issued recently by Dow Corning Corp., Midland, Mich. The catalog groups products according to application and carries 21 classifications compared with 17 featured in the previous edition. Tables, graphs, and pictures illustrate the eight-page brochure.

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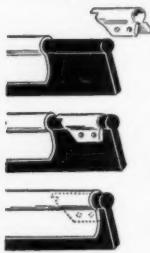
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Wasserman to Dura

Kurt J. Wasserman, formerly chief chemist and production manager of Trio Chemical Works,



Kurt J. Wasserman

Inc., Brooklyn, N. Y., has joined Dura Commodities Corp., New York, as vice president in charge of technical sales and service, it was announced Jan. 28 by I. Y. Straus, Dura president.

Mr. Wasserman's previous experience includes eleven years with Wallerstein Laboratories, Inc., New York. He has recently worked on the development of a commercially practical germicidal floor wax.

Dura is exclusive agent for the Fischer-Tropsch waxes produced by Krupp Kohlechemie G.m.b.H. of Germany. In his new position Mr. Wasserman will be concerned with the development of industrial uses for these waxes and with assistance to polish manufacturers and other wax users with their formulation problems.

Witco Buys Half of Ultra

A one-half interest in Ultra Chemical Works, Inc., Paterson, N. J., was acquired recently by Witco Chemical Co., New York. Ultra is a large producer of synthetic detergents, floor waxes and other chemical specialties for industrial and household use. Its main plant is in Paterson, N. J., with auxiliary plants in Joliet, Ill., and Los Angeles, Calif. Witco acquired one-half of the outstanding stock of Ultra in a transaction negotiated by

Shields & Co., New York brokerage concern.

— ★ —

I. Edward Brown Show

A trade show of sanitation chemical specialties, equipment and dispensers it sells to industrial, institutional and other maintenance consumers will be held at the Hotel New Yorker, April 13 and 14, it was announced last month by Lester Brown, head of the New York sanitary supply distributing firm of I. Edward Brown. This will be the first such show put on by Brown, and the first of its kind to be held in New York City.

— ★ —

Washburn Ups FitzSimons

Ralph T. FitzSimons, for the past two and one half years assistant sales manager of T. F. Washburn Co., Chicago, has been advanced to the position of sales manager, it was announced recently by Linus O. Smith, president. In his new post Mr. FitzSimons is responsible for directing and correlating the sales and merchandising programs of Washburn's branch sales offices with those of independent floor maintenance dealers who distribute the firm's line waxes, varnishes, detergents, and related products in other locations.

Mr. FitzSimons joined Washburn 10 years ago as a laboratory technician. Previous to his appointment as assistant sales manager in 1952 he served as the firm's southwestern division manager.

Ralph T. FitzSimons



Williams to Johnson

Richard Williams joined George T. Johnson Co., Medford, Mass., as assistant manager, it was



Richard Williams

announced recently by W. James Reider, Johnson president. Prior to his new appointment, Mr. Williams served as general manager of George B. Robbins Disinfectant Co., Cambridge, Mass., for two and a half years. Previously he had managed a printing ink business in Boston, Mass. In his new assignment at the Johnson Company he will be principally concerned with purchasing and with supervising internal sales.

— ★ —

Brake Fluid Standards

Metal test coupons for corrosion testing of hydraulic brake fluids will be ready for shipment about March 1, it was announced early this month by the Chemical Specialties Manufacturers Association.

Complying with standards set by the Society of Automotive Engineers, these strips can be used for the testing of other products.

Each coupon is $3\frac{1}{2}$ by $\frac{1}{2}$ inches and of proper thickness, with a hole drilled in the top. Available in tinmed iron, cast iron, steel, aluminum, brass, and copper, the coupons can be ordered in units of fifty from the Chemical Specialties Manufacturers Association, 50 E. 41st St., New York 17, N. Y., which says that adequate reserves have been built up.

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Brooks to Arwell

Robert Brooks has been named manager of the newly established product and equipment division of



Robert Brooks

Arwell, Inc., Waukegan, Ill., it was announced recently by W. W. Scott, president of the pest control products and equipment firm. Mr. Brooks was previously associated as manufacturers representative with Whitmire Research Laboratories, St. Louis. In his new position he directs sales of space, contact, and

residual sprays, insecticidal concentrates, fumigants etc., as well as of equipment for inside and outside use. At the same time Arwell an-



Alfred Agne

nounced the appointment of Alfred Agne to the newly created position of advertising manager. Mr. Agne was previously associated with Eureka Williams Corp. and Brunswick-Balke-Collender Co. Working with an agency he supervised field merchandising operations for Norge Division of Borg-Warner.

Roden Joins Arbitrators

Paul Roden, manager of the Mercantile Wax Division of Mercantile Metal & Ore Corp., New York, has recently been appointed to the national panel of arbitrators of the American Arbitration Association. As a panel member he is now available for selection by parties submitting commercial disputes to arbitration.

Potent New Insecticide

Dimethyl dichloro vinyl phosphate, DDVP for short, a new insecticide discovered by scientists of the Health, Education and Welfare Dept., Washington, D. C., was announced early this month. Said to be more potent and less toxic to warm blooded animals than DDT, it was found to be effective against DDT resistant flies, and against mites and aphids. Its residual effect is short lived which makes it suitable for use on crops.

So far no one has arranged

to produce the new pesticide, although two companies are reported to have shown some interest. The patent is owned by the Government which licenses persons and companies to use it but charges no fee.

Currently on a three-month round-the-world cruise on the Cunard cruise ship, "S. S. Caronia," accompanied by his wife, is Vern I. McCarthy, president of Vulcan Stamping & Mfg. Co., Bellwood, Ill. Sailing from New York Jan. 21st, the ship will visit the Caribbean Islands, South America, Africa, India, Indonesia, Hong Kong, Japan, and return to New York via San Francisco, Acapulco, Mexico, and the Panama Canal. Shown on the foredeck just before sailing time from left to right are: Mrs. Vern McCarthy, Bud McCarthy, Herb Scharbach, vice-president of Vulcan Stamping & Mfg. Co., Gordon D. Zuck, president Vulcan Steel Container Co., Birmingham, Ala., and Vern I. McCarthy.



Sanitation Clinics

A 12-page booklet describing sanitation cost control clinics to be held in metropolitan centers across the U. S. beginning late last month was announced recently by Industrial Sanitation Counselors, Louisville, Ky. The booklet, which bears the title "Organizing a Sanitation Program Based on Work Standards" lists in detail the complete program of morning and afternoon sessions for the one day clinics. Also included is a list of firms which have already registered for the clinics. Registrants for whom the clinics are designed include administrators responsible for systematic and economical cleaning of plants and institutions; key foremen, supervisors and crew leaders of cleaning forces and manufacturers and distributors of sanitary supplies.

The cost of the clinics is \$15.00 per person; \$12.50 per person for firms or associations represented by 10 or more. The registration fee includes a complete set of forms, charts and other sanitation work tools which will be furnished to each registrant. The clinics are under the direction of Mohe H. Soworth, president of Industrial Sanitation Counselors.

Topics listed for discussion at the clinics include: "sanitation today"; "installing a work stand-



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ards program"; "Determining the work load"; "scheduling realistic work assignments"; and "quality, the end product of sanitation." Also, "supervisor and sanitor"; "selection of cleaning tools"; "modern methods of cleaning"; "modern cleaning products"; "supervisor reports to the boss"; and "results of cost control-work standards program."

A survey of "What Remedial Measures are Being Taken at Plants and Institutions to Meet Rising Sanitation Costs?", which was conducted among sanitation administrators of 899 companies is discussed in the booklet. The check list used in the survey is also reproduced.

Witco Buys Emulsol

Witco Chemical Co., New York, has acquired the chemical division of Emulsol Corp., Chicago, and has organized Emulsol Chemical Corp., it was announced early this month. The newly organized corporation will continue to manufacture the products previously produced by the Emulsol facilities.

Benjamin R. Harris, with Emulsol since its inception, will continue as president and Solomon Epstein will serve as executive vice president. No changes in personnel or policy are intended according to Witco's announcement. The 30-year old Emulsol concern will continue to manufacture its line of surface active agents for a large variety of processing industries.

Witco observes its 35th anniversary this year. It operates 12 wholly-owned or associated plants and ten sales offices in this country and one plant and two sales offices in England.

New Lien Officers

At the annual meeting of the board of directors of Lien Chemical Co., Franklin Park, Ill., the following new officers were elected, according to a recent announcement by Carl B. Lien, president. D. D. Clark was named executive vice-president and Gerhard Haase was chosen treasurer and assistant secretary.

Heron Shamrock Vice-Pres.

Robert P. Heron, director of sales for Shamrock Chemicals Corp., Philadelphia, has recently been named



Robert P. Heron

a vice president and director. Shamrock is exclusive distributor of "Warwick" micro-crystalline and specialty waxes in Pennsylvania and Delaware.

Hollingshead N. Y. Office

The establishment of a new regional sales office at 22 E. 40th St., New York City, was announced early this month by R. M. Hollings-

Schrader Names Two

A. Schrader's Son, division of Scovill Manufacturing Co., Brooklyn, N.Y., recently announced the appointment of Jesse A. Giles to the post of manager of its Toronto plant. With Schrader, Canada, since 1930, Mr. Giles became assistant to the superintendent of the

Jesse A. Giles



head Corp., Camden, N.J. H. Wilson DuVal, formerly of the New York office of Dow Chemical Co., Midland, Mich., is in charge of the new Hollingshead New York office, which will be the headquarters of the company's eastern division. It will serve as the focal point for all sales and merchandising activities of Hollingshead in New York State and sections of New England.

To Represent Emulsol

Emulsol Chemical Corp., Chicago, recently announced that Charles Albert Smith Ltd., Toronto, Ont., will represent Emulsol in the entire Dominion of Canada. Smith sells Emulsol's line of surface active agents to industrial consumers.

Glyco Offers Reprints

Reprints of "Uses of Chelating and Sequestering Agents in Cosmetics" by George H. Goodyear and Berkley L. Hathorne, Glyco Products Co., Brooklyn, N.Y., are available on request to Glyco. The original paper was presented before the Society of Cosmetic Chemists, Chicago Section.

Birmingham, England, branch in 1934, returning to Toronto in 1935.

Appointment of Donald H. Storey as assistant manager of the Toronto plant was announced at the same time. Mr. Storey started as service manager with the Canadian branch in 1949 and became sales manager in 1951.

Donald H. Storey



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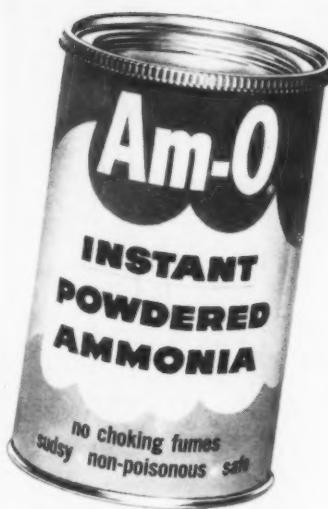
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"AM-O," an instant-sudsing powdered ammonia, was announced by B. T. Babbitt Co., New York, recently. The newest addition to the Babbitt line, when mixed with water, makes 1½ quarts of full strength bottled liquid ammonia. The powdered form is claimed to give off no choking fumes or odor, and to be nontoxic. To retail for about 27 cents, new "AM-O" will be promoted with varying combinations of newspaper, and television advertising.

Bridgeport Aerosol Rep.

Bridgeport Brass Co., Bridgeport, Conn., recently announced appointment of Tompkins, Madden & Co., Boston, as agent in the New England drug trade for the Bridgeport line of "Aer-o-sol" products. These include among others "Aer-o-sol" insecticides, "Bug Bomb" and "Vet-X" pet spray.

Haag Laboratories

(From Page 43)

begins with unloading of tank cars and tank trucks, and continues through processing of raw materials and on to final storage of finished products. This serves to provide an immediate supply of all products ready to be filled into containers ranging in size from one gallon up to tank cars.

Bulk handling necessarily demands a versatile system of tank storage. Special steam-heated tanks accommodate eight different types of oils used in manufacturing operations. Wherever possible, intermediate process and tank car storage tanks are placed underground

to conserve space and to utilize the earth's heat to prevent freezing. Finally, all materials are stored in 24 2200-gallon tanks which hold finished goods. From these 24 different tanks products are dispensed through bulk meters into packages as required by customers.

The nucleus of storage facilities is tied together with several networks of pipes and pumping systems whereby material may be transferred from one tank to any other tank. This versatility lends itself to the easy handling of special job lots and special product demand.

Thus, from raw material to customer a tracer would find the vegetable oils and alkali deposited at ground or underground level. Thence, the material is metered to the various soap kettles on the top level, where the raw material is processed as bulk soap stock. The kettles are designed for making certain types of soap—all have their special type of agitation, automatic temperature control methods, pH control elements and pumping systems. From this point the soaps divide and go their own special way, some to tanks where they are chilled by means of a 25-ton condensing unit, from which it is gravity filtered through recessed plate filter presses. Other soaps go to intermediate storage tanks; some are reprocessed after refiltering, and others are used for special type cleaners.

The evolution which has taken place in the development of the manufacturing process has converted the plant as a whole to one operated by "push-button" procedure. Yet Haag still feels it requires the human element to push the buttons, pull the levers, fill the containers and to supervise the laboratory control of its products.

The nucleus, and stockholders, of the company are V. W. Haag, founder and president; V. Wilbert Haag, production manager; Ralph F. Haag, sales manager, and Margaret E. Sharpe, secretary-treasurer. Miss Sharpe joined the company in 1926, later

becoming an officer of the company.

Incidentally, it was in 1927 that Haag moved from 6012-6016 S. State St., Chicago, to 6101-09 S. May St. Before the move, and during the time the company occupied its So. State St. location, consisting of three store fronts, it developed and produced one of the first permanent types of anti-freeze. This was a patented development. After moving to So. May St., a site eventually purchased by the company, the firm began to concentrate on the manufacture of soaps. At that time, 1927, nationally advertised brands of anti-freeze began to dominate the market.

In summing up a few of the reasons for its success in the field of potash soaps and sanitary chemicals, Haag mentioned three factors: 24 hour service, prompt private label work and drop-shipments. These, Haag feels, have contributed greatly to the success of the company.

Now, after a career of nearly 35 years in the soap business, Vern Haag, president of the firm, is gradually spending more time at his new home in Lake Worth, Florida. He still remains active in fraternal circles, being an ardent member of the Lions Club, and a 32nd degree Mason and Shriner.

Mr. Haag's two sons, who are members of a close-knit and harmonious team, have also made major contributions to the success of the firm. Both hold degrees in chemistry from the University of Illinois, as does another of Mr. Haag's sons.

When he is not concerned with problems of producing at the Haag plant, V. Wilbert Haag spends all of his spare time in Yacht Club activities. He has a cabin cruiser and is a past Commodore of the Southern Shore Yacht Club. He is a Vice-Commodore in the Lake Michigan Yachting Association.

Ralph Haag is busy raising a family of four children and building a new home in Palos, west of Blue Island.

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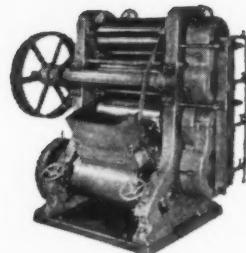
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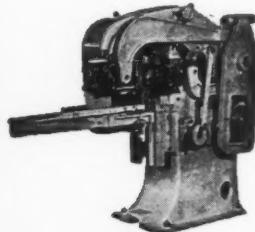
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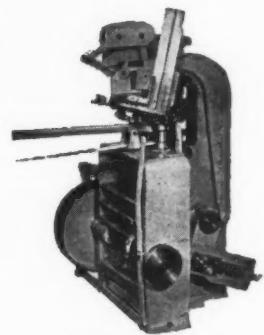
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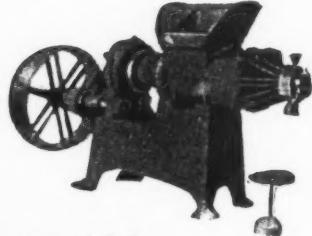
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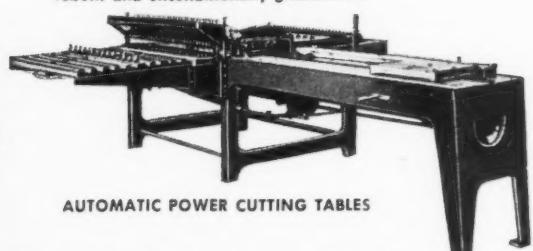
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(Continued on Page 187)

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Wanted: Complete soap or process chemical plants and machinery including kettles, frames, crutchers, pulverizers, cooling rolls, chip dryers, plodders, cutting tables, evaporators, packaging units, automatic soap presses, mixers, stainless steel tanks. P. O. Box 1351, Church St. Sta., New York 8, N. Y.

For Sale

For Sale: Pneumatic Scale Packaging line complete; Houchin 10" jumbo plodder; Lehmann 14" plodder; Houchin 14" x 36" 5-roll inclined w.c. mill; Jones automatic laundry & toilet soap presses; Pkg. Machy. model TT and model N soap wrapping machines; 1500 lb. to 6000 lb. crutchers; 12" to 42" filter presses; powder mixers; paste and liquid mixers; Rotex screens; Hammer mills; soap frames; jacketed kettles; pumps; agitators; gluer-sealers, etc. Ask us to quote

— Send us your list of surplus machines or plants. Consolidated Products Co., Inc., 59 Garden Street, Hoboken, New Jersey. Tel: HO 3-4425. N. Y. Tel: BA 7-0600.

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For Sale: Are you missing some back numbers of SOAP magazine to complete your files? The following are available from Huntington Laboratories, Huntington, Indiana: March, 1937; Dec., 1941; Dec., 1943; April, 1944; April, July, Aug., Sept., and Dec., 1945; July and Sept., 1947; Jan., March, June, August, Oct., Nov., 1948; April, May, August and Sept., 1951.

For Sale

For Sale: By I. E. Newman, 5602 Blackstone Ave. Chicago, Ill. Jones automatic laundry & toilet soap presses: 1500 lb. to 6000 lb. crutchers; 10" plodder; Automatic cutting table; Type S wrapper; Filter presses; Powder mixers, etc.

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For Sale: Proctor & Schwartz 7 section 3 apron conveyor soap chip dryer with 60" chilling roll unit, motor driven, late modern type. Principals only. Address Box 386, c/o *Soap*.

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(Continued on Page 189)

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- 1—Raymond Pulverizer #40 Imp. Mill.
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- 1—J. H. Day single arm amalgamator Mixer 43" wide x 36" Length 48" deep, tilting type.
- 2—Soap storage tanks 9'-4" x 6'-8" x 8' deep open top, steam jacketed bottom.
- 4—Soap storage tanks 7'-10" x 10' open top.
- 8—Steel Storage tanks 6'-6" dia. x 7' high with coils.
- Assorted valves and fittings, new and used.
- 1—Houchin Aiken 6" Soap Plodder.
- 5—Houchin Aiken, 4-roll toilet soap granite mills rolls, 18" dia. x 30" long, 1-10" belt conveyor 9' long with motor and drive.
- 1—Resina Model LC Automatic Capping Machine late model.
- 1—1500 lb. Dopp CI Crutcher, Style A, Jacketed shell, reversible screw agitator.
- 1—W. J. Fitzpatrick, Model D, 3-speed S. S. comminuting machine.
- 1—Howes & 1—Bernard & Leas Bulk Bag packer.
- 1—Union Special Bag Stitching Machine.
- 1—Eastern Engr. 3 H. P. Portable Mixer, Model G8 3-60-220/440 — 400 RPM totally enclosed.
- 1—Fairbanks Morse Scale tank 31,000 lb. Capacity with 8' dia. x 8' tank.
- 2—Fairbanks Morse Platform scale 2000 lb. capacity.
- 2—Howe Recording Beam Scale 1000 lb. Capacity.
- 1—B. F. Gump Vibrox Packer.
- 1—Harders Soap Sampling Device.
- 1—J. H. Day 100 lb. Powder Mixer with Hunter Sifter.
- 1—2000 lb. Powder Mixer.
- 2—New Mixing Equipt. Co. D-1 1/3 H.P., 430 RPM, Portable Mixer.
- 6—Houchin Aiken Bar cutters.
- 1—1000 lb. portable elevator 5' lift.
- 1—J. H. Day 200 lb. powder mixer with motor & drive.
- 1—Triangle semi-automatic Auger Type Powder Filler.
- 7—U. S. Bottlers 2-spout vacuum fillers.
- 12—W. P. 150 Gal., 100 Gal. working capacity heavy duty, sigma blade paste mixers, jacketed for heating or cooling. Tilting type, with cover.
- 6—Houchin-Aiken Power driven Soap Slabbers.
- 2—Houchin-Aiken 8" Soap Plodder.
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- 1—New 1050 gal. Tank, 5'-6" dia. x 6' high, lugs on side, lined with 6 coats Amercoat #77.
- 1—475 gal. Stainless Steel Tank, 4' dia. x 5' high, lugs on side.
- 1—Tank, 4'-6" dia. x 6' high, on legs, closed top with manholes, designed for 100 lbs. working pressure.
- 1—New Sperry 30" Filter Press, 39 plates, 40-2" frames, top feed, bottom discharge, ratchet screw closing.
- 3—Vacuum Bleach Tanks, 4000 gal., cone bottom with 5 H.P. agitators.

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ALSO SEE OUR PAGE No. 184

For Sale

For Sale: Stainless Steel Tanks 15 gal. to 8000 gal. Stainless steel kettles 10 gal. to 550 gal. Powder mixers 200# to 4000#. Aluminum and steel tanks, pulverizers, etc. Perry Equipment Corp., 1410 N. 6th St., Phila. 22, Pa.

576 Pages of practical information covering formulation, properties, history, testing & uses of disinfectants, household & industrial insecticides, floor products, soap specialties, etc. Covers also the subject of labeling and packaging of insecticides, etc. See page 190 for further particulars.

For Sale: Reprints of article "Synthetic Detergents up-to-date . . . II" . . . 44 pages listing over 1000 detergent products by trade name, manufacturer, class, type, formula, manufacturer, class, type, formula and uses—price \$1.50. Remittances must accompany order. Available direct from author. John W. McCutcheon, 475 Fifth Avenue, New York 17, N. Y.

Full Up-To-Date Facts on Chemical Specialties. See page 116.

Packaging Notes

(From Page 51)

industrial mixer, and heavy liquid equipment. Included is a comprehensive illustration showing a typical installation of the "Marion" heavy liquid mixing process and a detailed illustration describing the mixing and blending action of the firm's equipment. Rapids small batch mixer, elevator, finisher, and other accessories for chemical plants are described and illustrated on the remaining pages. Copies of the catalog are available on request.

Stokeswrap Folder

A new eight-page folder in color describing application of "Stokeswrap" automatic machinery for high speed packaging of various specialties was published recently by Stokes & Smith Co., Philadelphia. Feed mechanism to handle liquid, semi-liquid, granular and powdered products are illustrated and described.

ed and products are listed which are currently being packaged by "Stokeswrap" machines. Information is included on package types, sizes, and the different kinds of packaging materials which can be used. Folder P-801 is available on request by writing Stokes & Smith Co., 4992 Summerdale Ave., Philadelphia 24, Pa.

New Sponge Cloth Package

New packing and display for "Amsco Sponge Cloth" were announced recently by American Sponge & Chamois Co., New York. A new cellophane wrap has been created for the cellulose sponge. The display carton holding two dozen sponge cloths in the 39 cent retail size comes free with every order. The new packing and display are designed especially for self-service type stores, as the full description explains to the buyer the particular

Recently introduced "Lincoln" disinfectant and cleanser of Baird & McGuire, Inc., Holbrook, Mass., for sale through retail grocery stores is reported meeting with excellent consumer acceptance. New pine scented product contains "Dyntin" terpene hydrocarbon solvent. Pint size bottle features four color label of red, yellow, green and black.



characteristics of the sponge cloth. The product comes in four pastel colors, also in a jumbo size for cleaning automobiles.

Kelco Moves Office

The New York office of Kelco Co. moved to 120 Broadway on Jan. 28. Kelco was previously located at 31 Nassau Street.

Products and Processes

(From Page 99)

aryl sulfonate paste or sodium lauryl sulfate paste, 2; and water to make 100. This type of formulation is recommended for packing in mild steel drums, for sale to hospitals, institutions and bakeries, etc.

Some of these condensates are used as foam boosters in liquid cleansers. They act as solubilizing agents for alkyl aryl sulfonates and sodium lauryl sulfates, depressing the cloud point of mixtures and helping to prevent separation of active matter at low temperatures. These products are also used to a more limited extent as additives for powder detergents, where they are incorporated by spraying in the molten state on to spray-dried or physically mixed powders. A. Taylor, *Manufacturing Chemist*, December, 1954, page 531.

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Coming Meetings

American Society for Testing Materials, Committee D-12, Park Sheraton Hotel, New York, March 14, 15; annual meeting, Chalfonte-Haddon Hall, Atlantic City, N. J., June 26-July 7.

Association of American Soap & Glycerine Producers, Inc., 29th annual meeting, Waldorf-Astoria Hotel, New York, Jan. 25-27, 1956.

Association of Consulting Chemists and Chemical Engineers, symposium, Belmont Plaza Hotel, New York, April 26.

American Oil Chemists' Society, 46th annual meeting, Roosevelt Hotel, New Orleans, April 18-20.

Chemical Market Research Association, annual meeting, Plaza Hotel, New York, May 18, 19.

Chemical Specialties Manufacturers Association, 41st mid-year meeting, Drake Hotel, Chicago, May 16-18; 42nd annual meeting, Roosevelt Hotel, New York, December 5-7.

Drug, Chemical and Allied Trades Section of the New York Board of Trade, annual dinner, Waldorf-Astoria Hotel, New York, March 3.

National Pest Control Association, 22nd annual convention, Denver, Colo., Cosmopolitan Hotel, headquarters hotel, Oct. 17-20.

National Sanitary Supply Association, 32nd annual convention and trade show, Convention Hall, Atlantic City, N. J., March 20-23.

Packaging Machinery Manufacturers Institute, semi-annual meeting, Palmer House, Chicago, April 16, 17; annual meeting, The Homestead, Hot Springs, Va., September 15-18.

Packaging Show and Exposition, Amphitheater, Chicago, April 18-21.

Synthetic Organic Chemical Manufacturers Association, monthly luncheon meetings, Commodore Hotel, New York, March 9, April 13, May 11; annual outing in conjunction with MCA, Greenbrier Hotel, White Sulphur Springs, W. Va., June 9-11.

Toilet Goods Association, 20th annual meeting, Waldorf-Astoria Hotel, New York, May 10-12.

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Tale Ends

WELL, we see where old "Mique" Flett is retiring. His name's really Lawrence, but everybody has called him "Mike" or "Mique" for years. He's known also as "Mr. Detergent." He had the temerity about ten years ago to predict that by 1955, synthetic detergents would be outselling soaps. Everybody thought he was nuts and said so, (including us) but how right he was. Now, he's retiring from National Aniline, but will continue to serve them as a consultant. So, we'll have old Mike around for a while, — which is good, — and call on him for advice as usual. Here's to "Mr. Detergent!"

* * * * *

Led by Pres. Melvin Fuld and his wife, the board and committee chairmen of the Chemical Specialties Mfrs. Assn. journey to Hollywood Beach, Florida, for a quarterly meeting come March 13. Now, 'tis said that Pres. Melvin, and his pal, Secy. Doc Hamilton are gluttons for work at these board meetings. But the meeting is being held at a swanky resort hotel with swimming pool and golf course right at the back door. So, maybe some of the board members may not take so kindly to this work routine in the midst of a holiday atmosphere. "It's strictly an experiment," says Senor Hamilton. "We're a working association," says Mel. You can say that again, pal!

* * * * *

Following the NSSA Convention in Atlantic City next month, a safari to New York for members and their wives is being arranged sort of unofficially by Leo Kelly and his staff. So, National Sanitary Supply Assn. is polling its members regarding hotels, transportation, theatre tickets, etc. The convention and trade show will close at 1 P. M. on March 23 and the descent upon the Big Town by western and mid-western members will follow. We must warn some of them that all the night spots in N. Y. aren't what they're cracked up to be.

* * * * *

To Howard F. Bernhard, prez and general manager of Pioneer Soap Co. of San Francisco, goes the Soap Association gold plated door-knob for coming the longest distance the most years in a row to attend the annual soap industry meeting in N. Y. Howard has traveled all the way from San Francisco to N. Y. for twelve consecutive years to be present at the meeting and nary a miss. This we feel certain is a record for the Association which should be duly entered in the archives.

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Our inadvertent effort to bring Gert Keller of Schimmel under the banner of the shamrock by identifying him as Gert "Kelleher" in the Jan. issue was detected by several sharp-eyed readers.

Gert posed for our photographer at the December CSM&I meeting and was nearly assimilated by our Dublin educated editor for his troubles. While donning the sack cloth and ashes of apology we should also ask pardon of Jim Stephenson for committing less majesty by referring to him as a member of the sales staff of Verley. Actually, and as we should well know, Jim is manager of sales of aromatics manufactured by Verley Chemical Co., Newark, N. J., subsidiary of Albert Verley & Co., New York

* * * * *

From the Tata Oil Mills Company, Ltd. of Bombay, India, we have received one of the most beautiful diaries for 1955 which we have viewed in many a moon, — wonderfully illustrated in color and with reproductions of ancient Indian works of art. Tata Oil Mills

produces laundry and toilet soaps, edible oils, glycerine, and owns Lakme, Ltd. which makes perfumes and cosmetics. The firm is part of the Tata family industrial empire of India which owns steel mills, textile mills, power and chemical companies, today known as Tata Sons Limited. It was founded in 1887 by Jamsetjee Tata as a small trading firm.

* * * * *

This is a "census" year. In other words, the Bureau of the Census, — a branch of the U. S. Department of Commerce, — is out to find out what and how much of everything everybody made and sold. And the Bureau is urging manufacturers and all others to cooperate by filing their census reports early and in full. Complete returns in any census are of the essence if the figures are going to mean anything. So when you get your forms, fill 'em out and shoot 'em in to the Bureau. And just a gentle reminder, — you are compelled by law to file a census return.

Consider the cost...

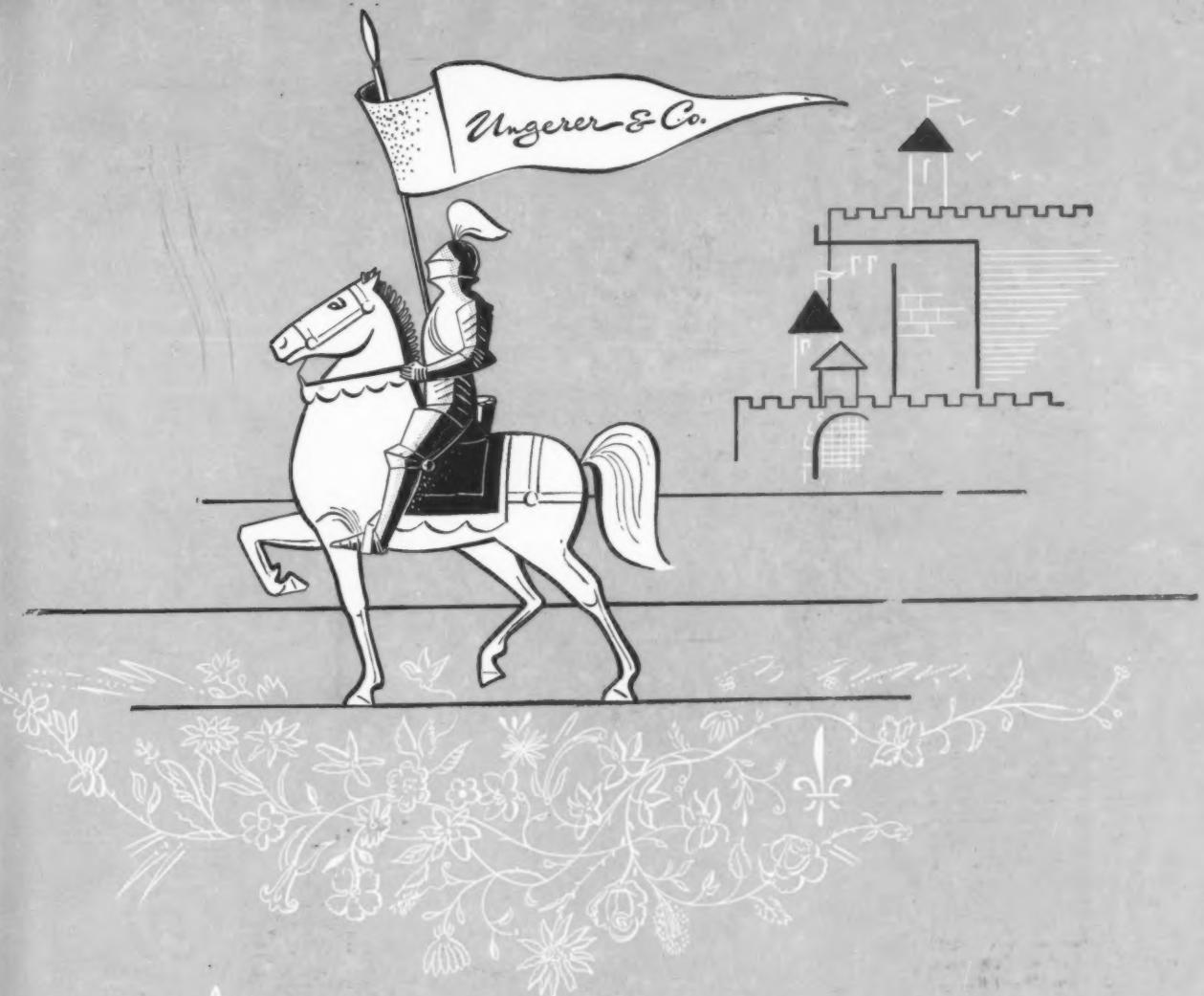


ADVERTISING in business publications carries your message direct to prospects at a fraction of the cost of letters or other direct mail stuff . . . avoids the waste basket . . . is kept around for future reference . . . so if you would save money in reaching the field of soaps and detergents, insecticides, disinfectants, floor products, aerosol, automotive chemicals and other chemical specialties, try regular advertising in

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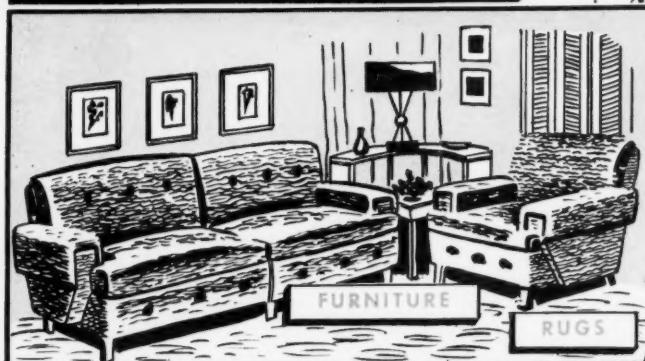
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OF
PROTECTION

Against Moth Damage
WITH ONLY ONE EASY SPRAYING!

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PROTECTS GARMENTS 3-WAYS:

- 1 KILLS THE ADULT MOTH!
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A Brand New **SURE** Method of
Killing Moths & Carpet Beetles!

For years there has been a need for a mothproofing compound with LASTING QUALITIES. Now we bring you VARCO MOTH PROOFER—one simple easy spraying and garments, rugs, woolens, etc. are given a full year's protection against moth damage—kills carpet beetles also! Your insecticide sales can be given a real boost this year if your salesmen concentrate their efforts on selling this marvelous new insecticide formulation—its economy in use alone is enough to give it sure-fire sales appeal.

Think of it—only one treatment a year!

Available in pressurized 12 ounce bombs or in bulk for use in large spray units. Under your own private label if desired. Why not get all information RIGHT NOW—and we mean WRITE NOW.

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